

SERVICE
MANUAL

1122DC



marantz

model 1122 DC

Stereo Console Amplifier

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1. POWER AMPLIFIER ADJUSTMENT

1.1 DC-OFFSET Adjustment

Connect VTVM to J860 and J865 (or ground) and adjust left channel R739 until the meter indication reaches 0mV ($\pm 5\text{mV}$). Similarly, connect VTVM to J861 and J865 (or ground) and adjust right channel R740 until the meter indication reaches 0mV ($\pm 5\text{mV}$).

2. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 1122DC Stereo Console Amplifier. The wattmeter, AC voltmeter, and variable autotransformer may be assembled as a test fixture as shown schematically in Figure 1. The load resistors and AC ammeter may be assembled into a second test fixture as shown in Figure 2.

Item	Manufacturer and Model No. (or equivalent)	Use
Distortion Analyzer and Audio Oscillator	Sound Technologic, Model 1700B (NOTE: Less than 0.002 percent residual distortion is required.)	Measures distortion, voltage of amplifier output and sinewave source.
Oscilloscope	Tektronix, Model 503; Data, Model 555	Waveform analysis and troubleshooting.
VTVM	RCA Senior Volt-Ohmyst, Model WV-98C	Voltage and resistance measurements.
AC Wattmeter	Simpson, Model 390	Monitors primary power consumption of amplifier.
AC Ammeter (0 to 10 amps)	Commercial Grade	Monitors amplifier output under short circuit condition.
Line Voltmeter (0 to 150V AC)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140V AC, 10 amps)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohms across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Power Supply Bleeder Resistor (10 ohms at 1W)	Commercial Grade	Discharges power supply filter capacitors prior to disassembly or resistance measurements.
Output Load Resistor ($8\Omega \pm 0.5\%$, 250W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.
Output Load Resistor ($4\Omega \pm 0.5\%$, 250W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load Capacitor (0.5 mfd)	Mylar	Provides capacitive load for instability checks.
AC Power Control Box	Optional Item. Fabricate in accordance with Figure 1.	Monitors and controls primary power for amplifier.
Amplifier Output Load Box	Optional Item. Fabricate in accordance with Figure 2.	Provides various amplifier loads and can monitor shorted output.

Table 1 Test Equipment Required for Servicing

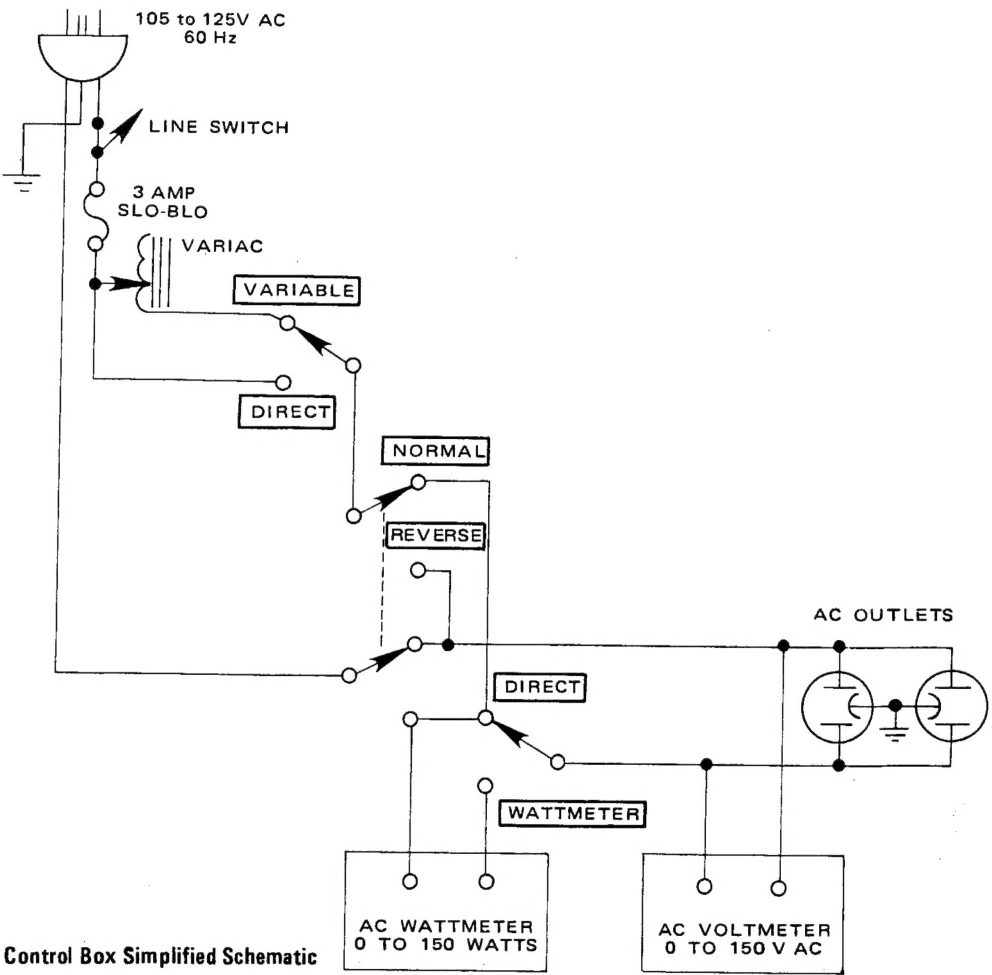


Figure 1. AC Power Control Box Simplified Schematic

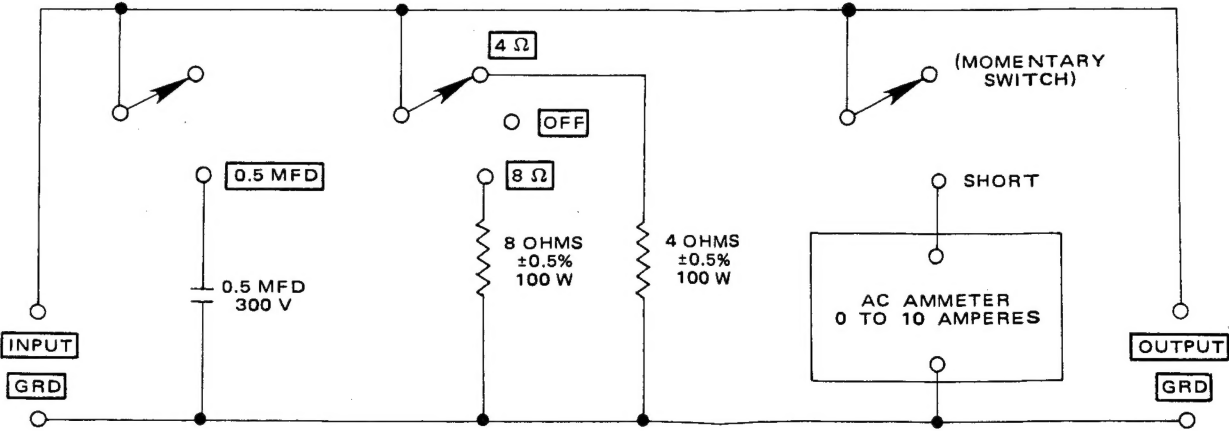


Figure 2. Amplifier Output Load Box Simplified Schematic

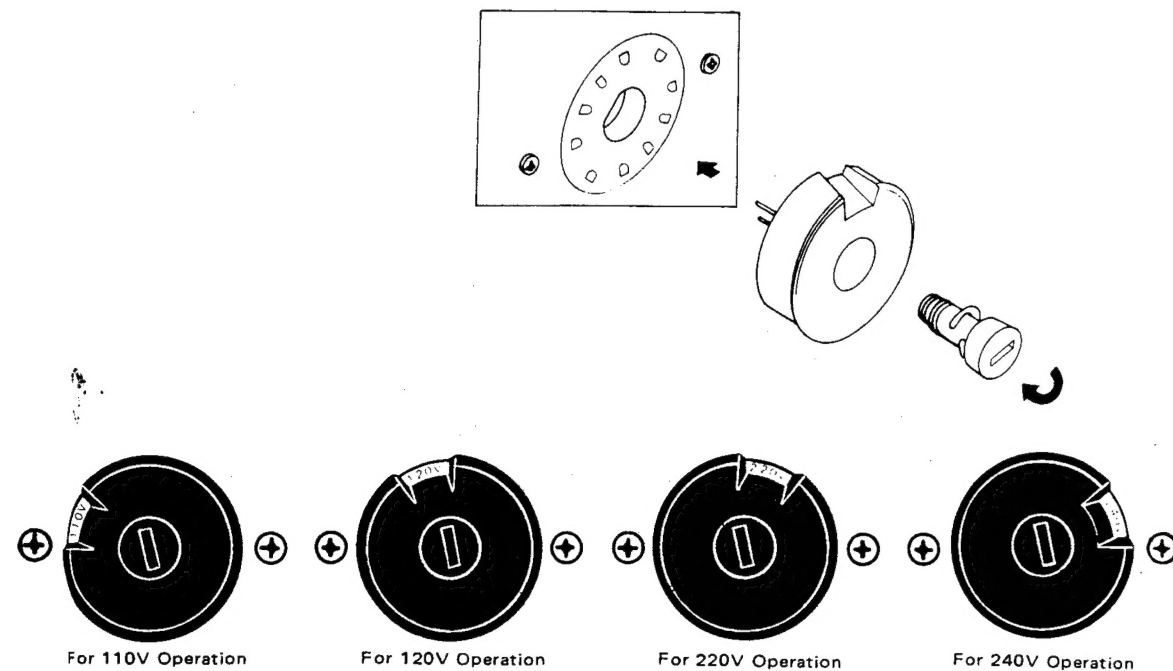
3. VOLTAGE CONVERSION

• EUROPEAN MODEL ONLY

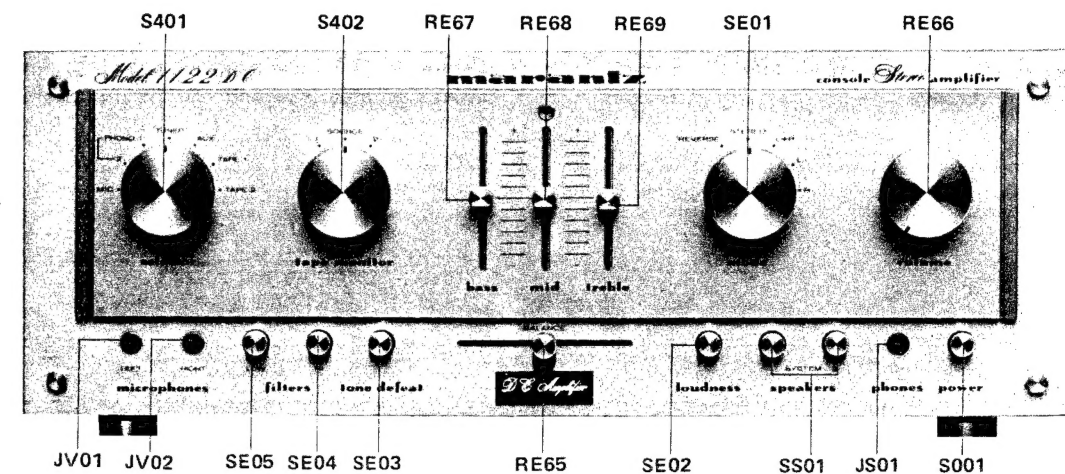
This Model is equipped with a universal power transformer to permit operation at 110, 120, 220 and 240V AC 50/60 Hz.

To convert the unit to the required voltage, set the plug as illustrated so that you can adjust the voltage as required.

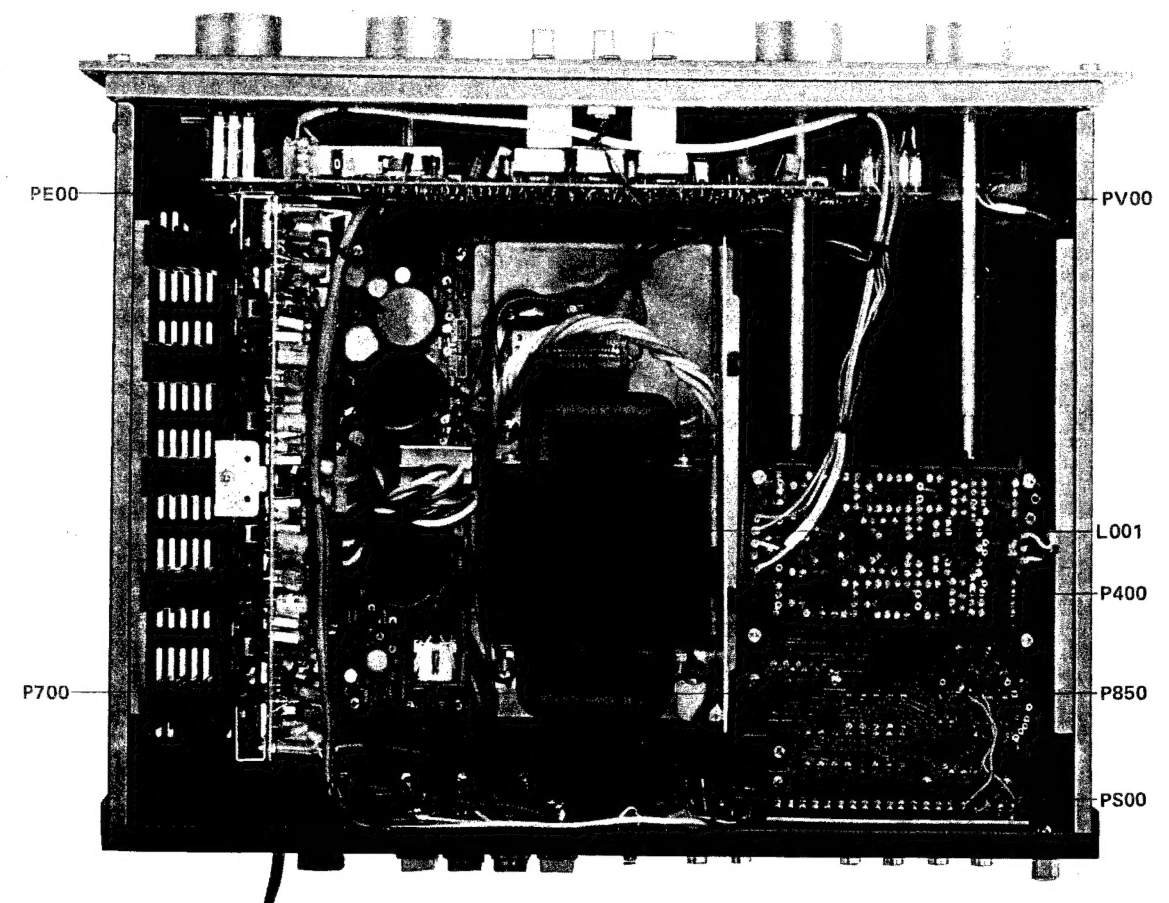
CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.



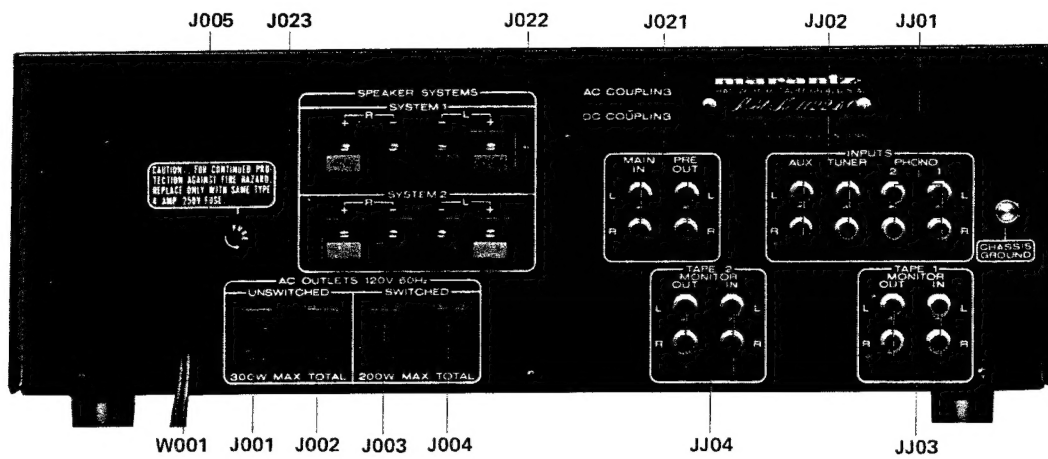
4.1 Front Panel Adjustment and Component Locations



4.2 Main Chassis Component Locations (Top View)

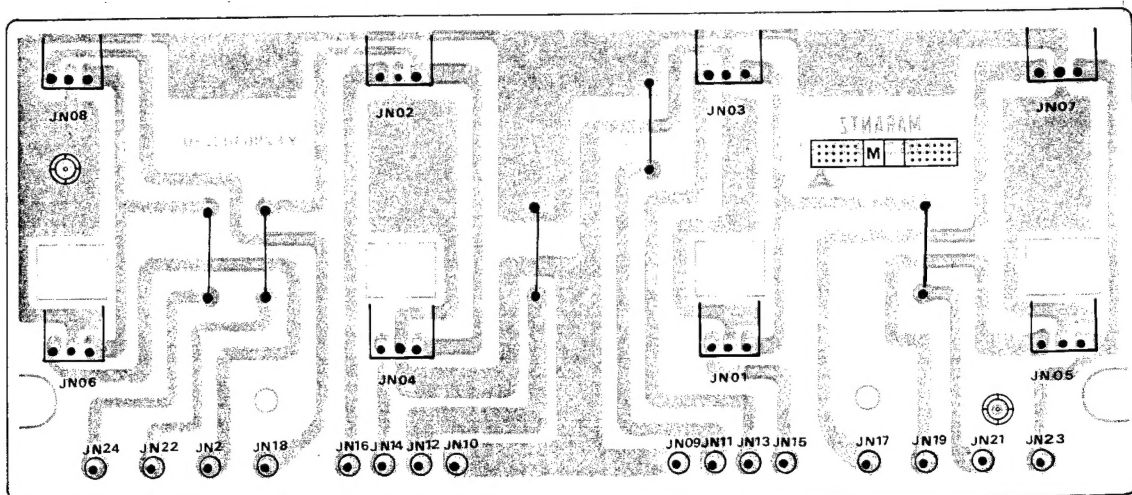
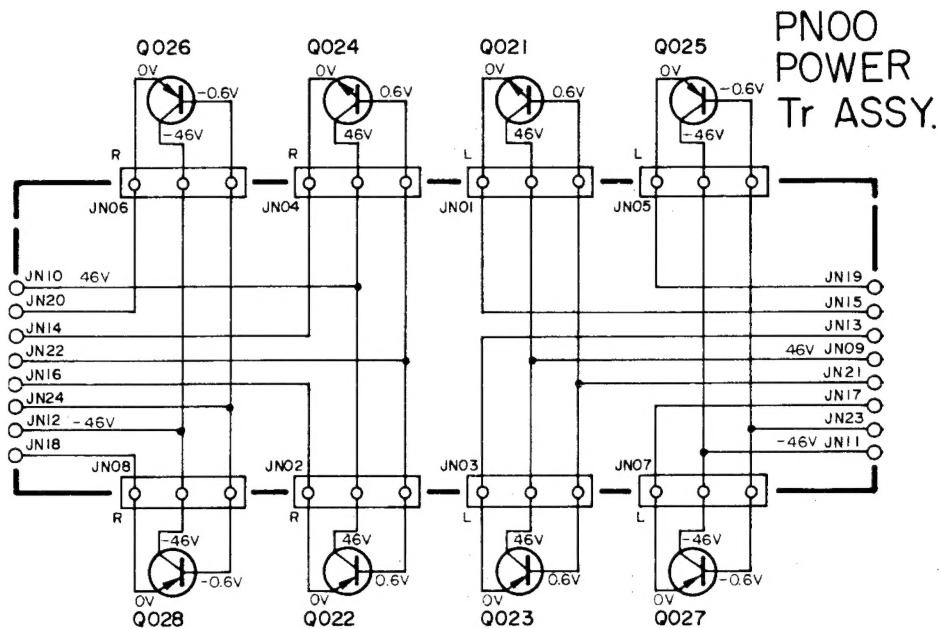


4.3 Rear Panel Adjustment and Component Locations

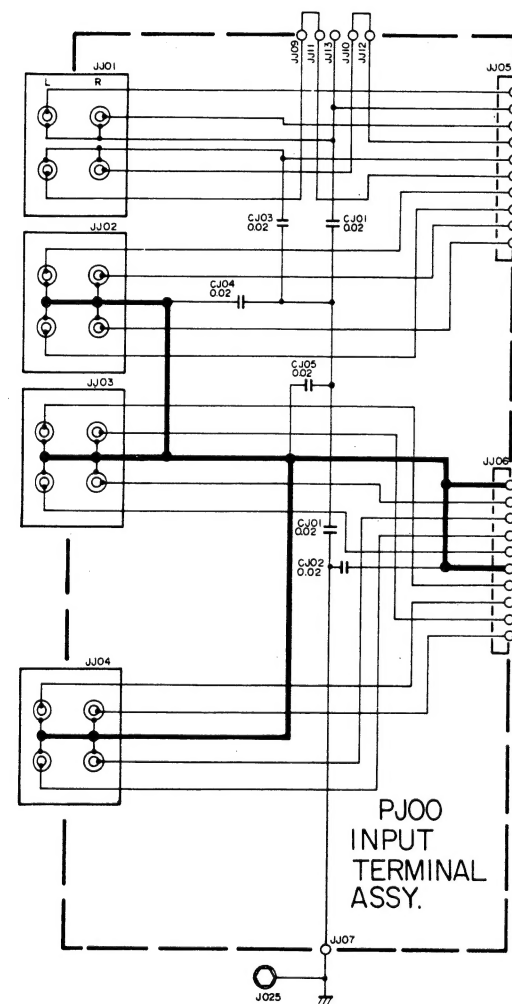


5. DIAGRAM AND COMPONENT LOCATIONS

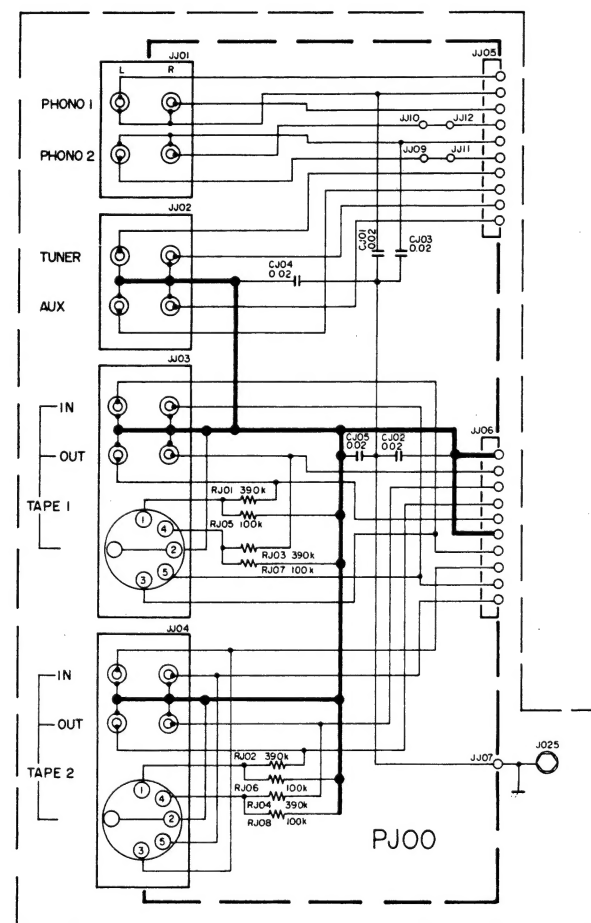
5.1 Power Transformer Assembly (PN00) Schematic Diagram and Component Locations



5.2 Input Terminal Assembly (PJ00) Schematic Diagram

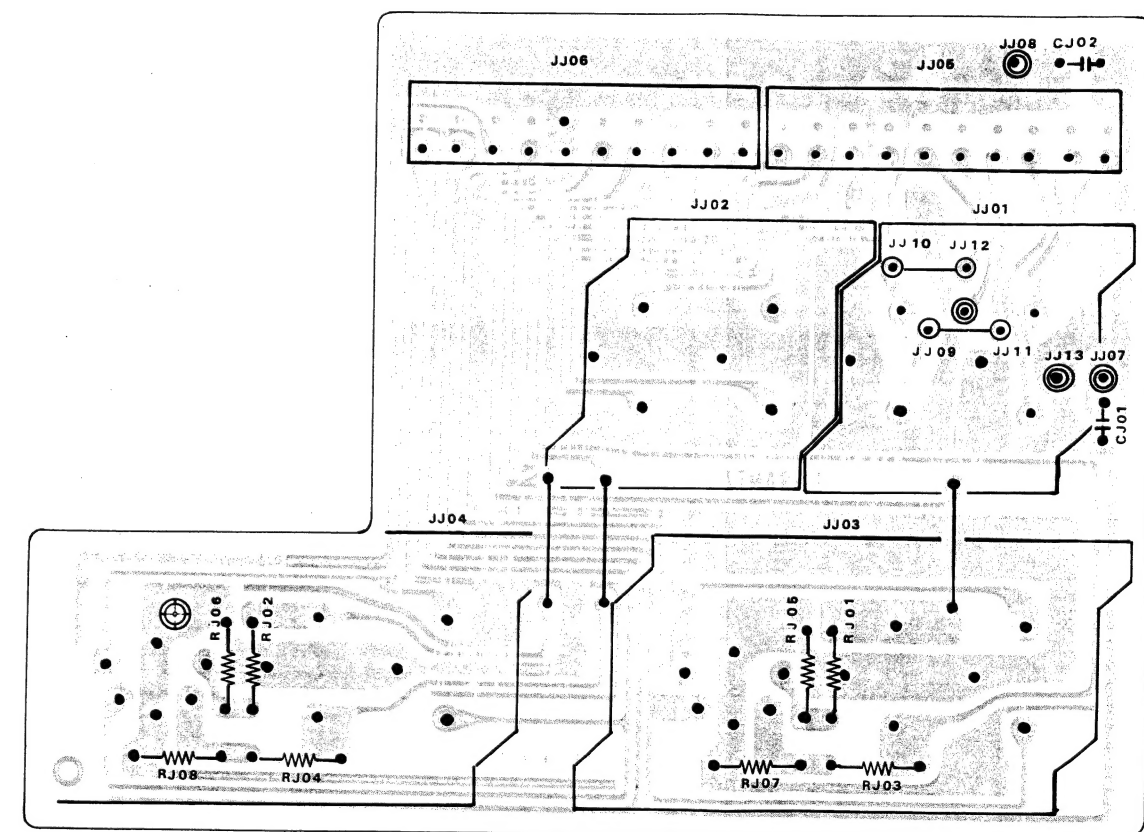


For U.S.A., Canada

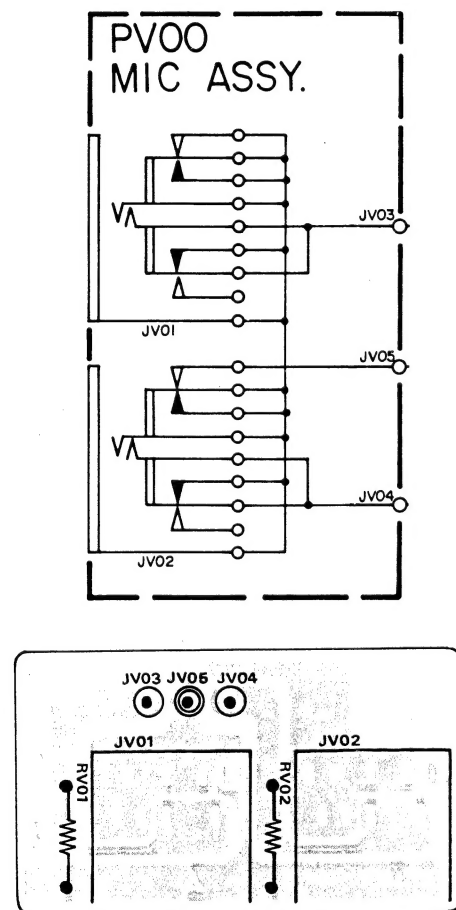


For Europe

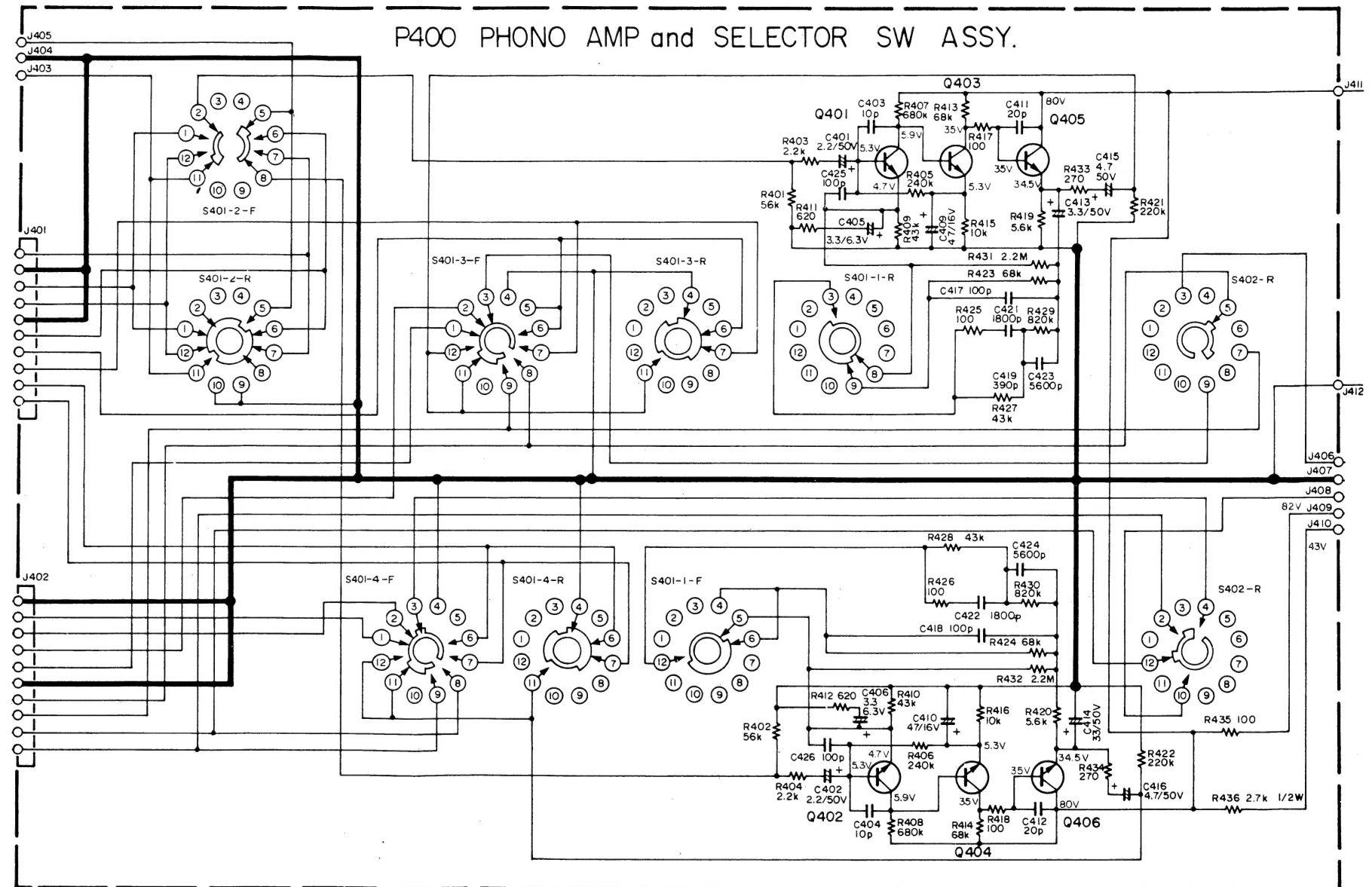
Input Terminal Assembly (PJ00) Component Locations



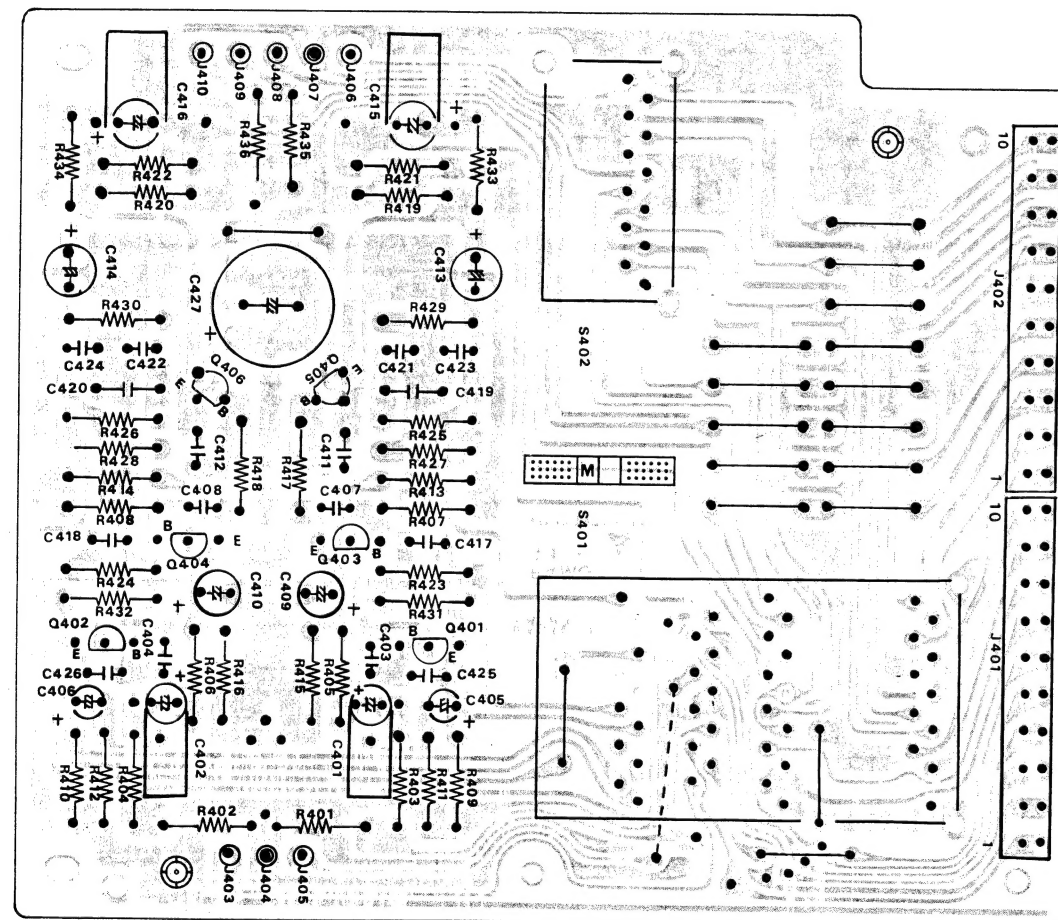
5.3 Mic Assembly (PV00) Schematic Diagram and Component Locations



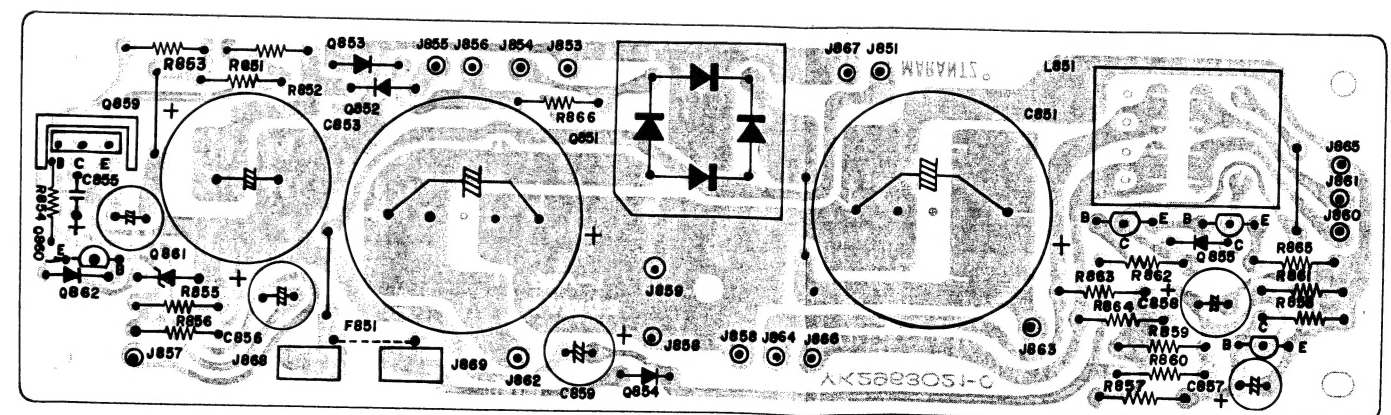
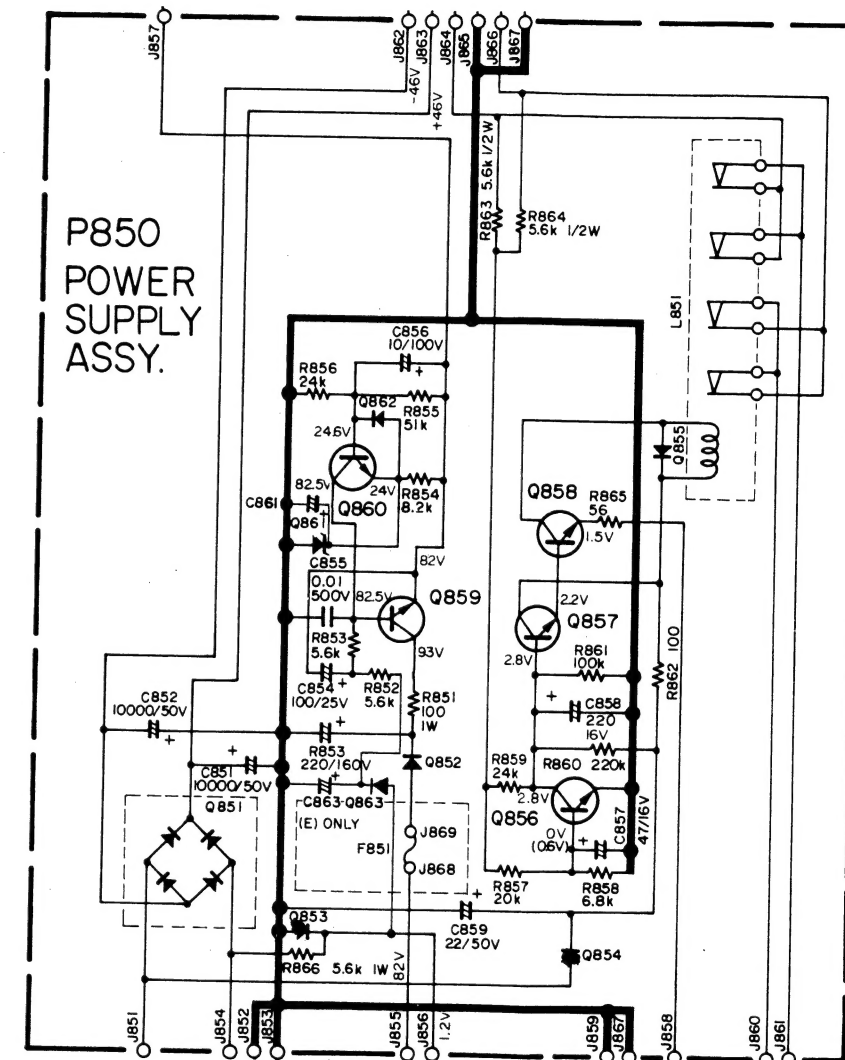
5.4 Phono Amp. & Selector SW. Assembly (P400) Schematic Diagram



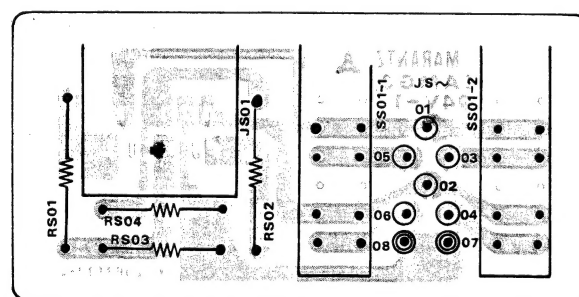
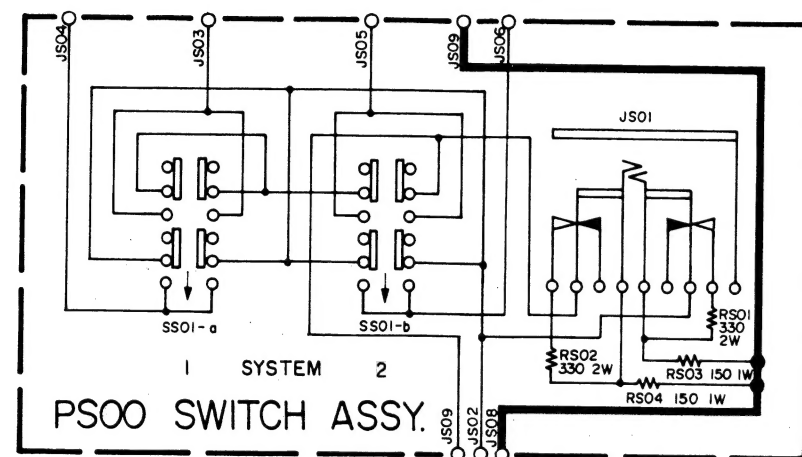
•Phono Amp. & Selector SW. Assembly (P400) Component Locations



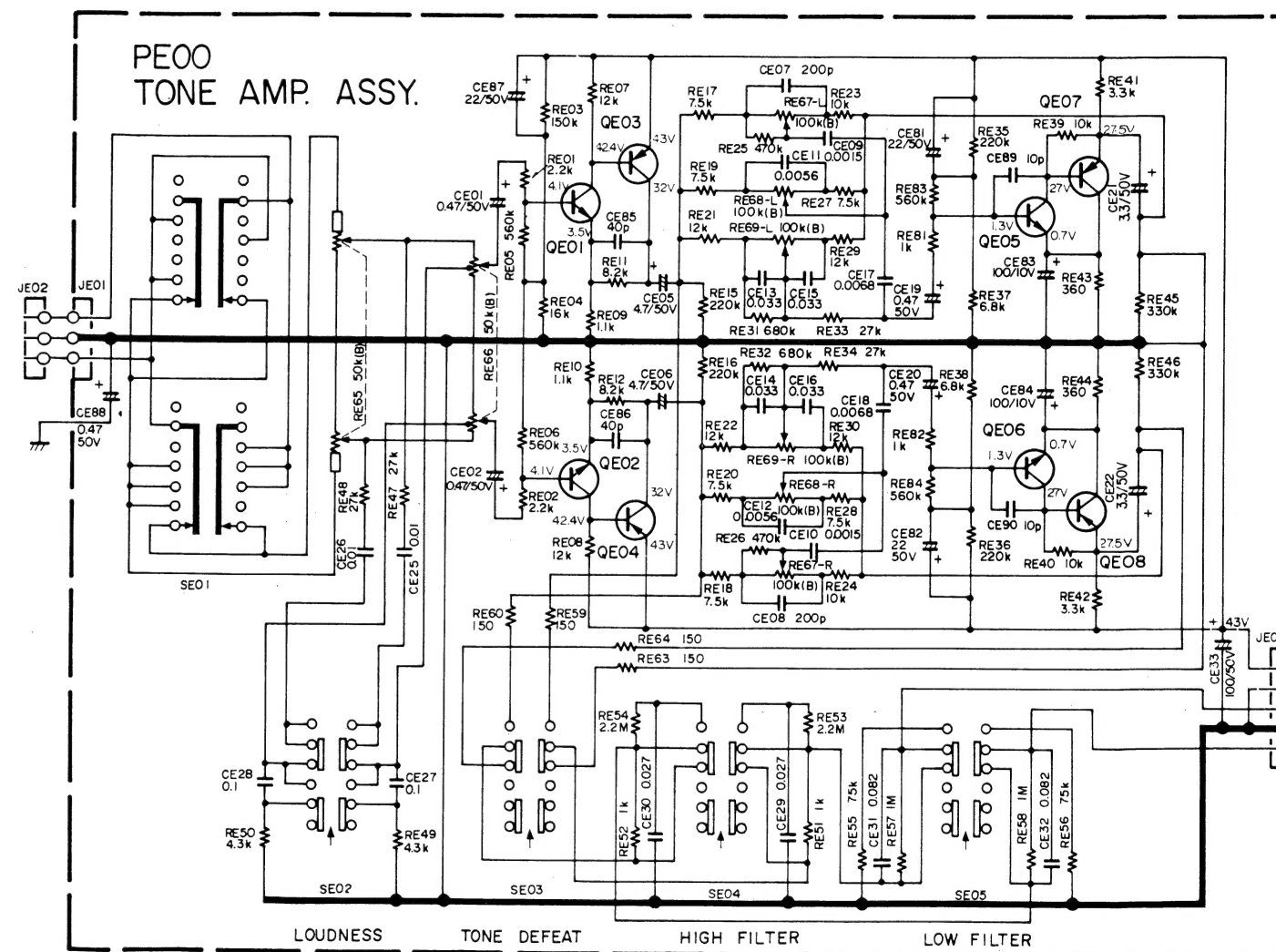
5.5 Power Supply Assembly (P850) Schematic Diagram and Component Locations



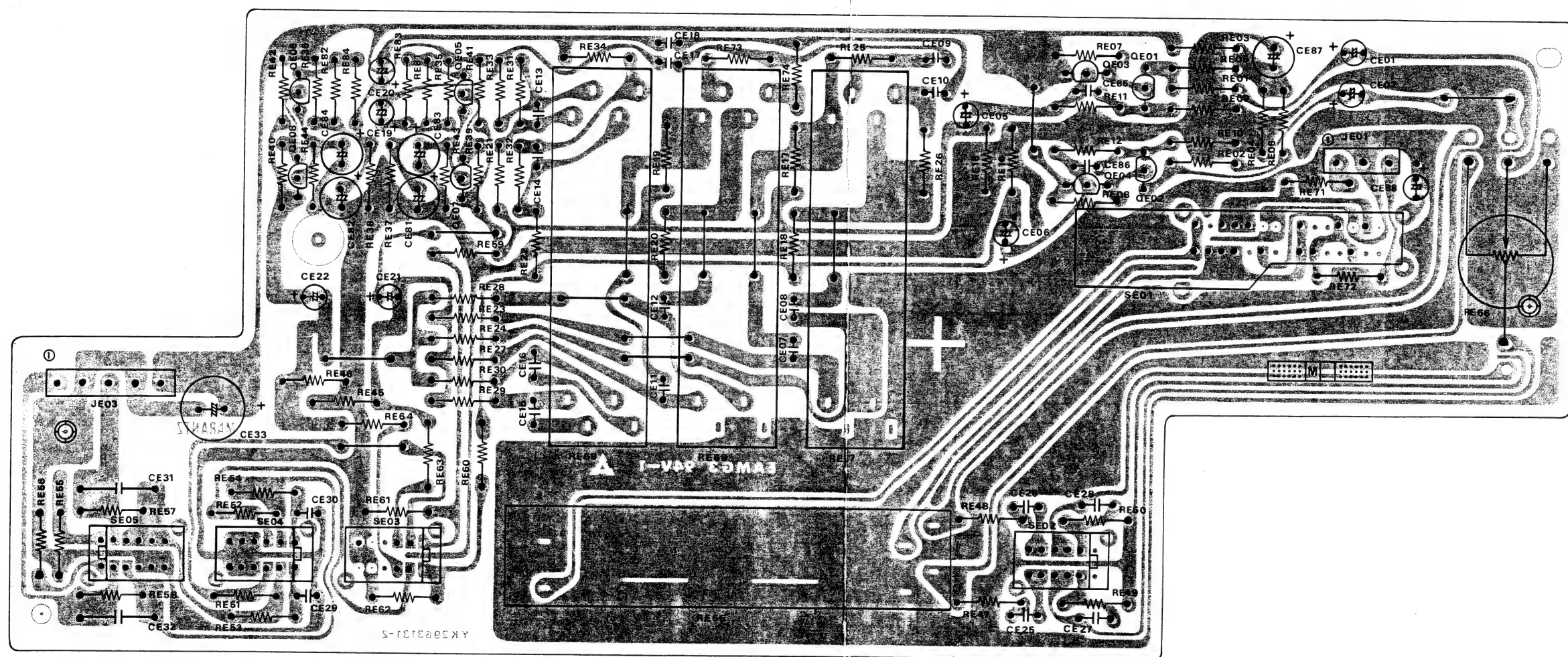
5.6 Speaker SW. Assembly (PS00) Schematic Diagram and Component Locations



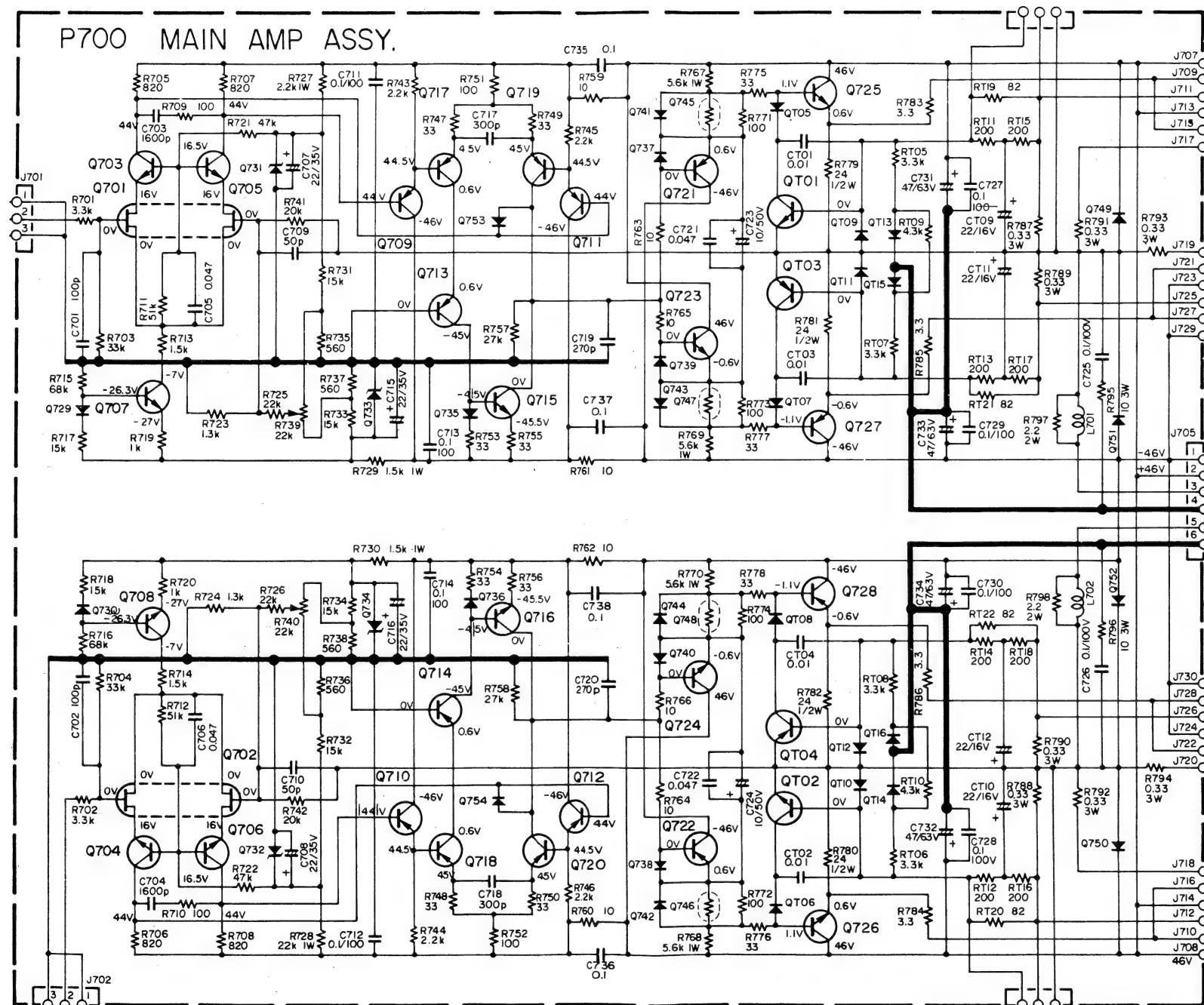
5.7 Tone Amp. Assembly (PE00) Schematic Diagram



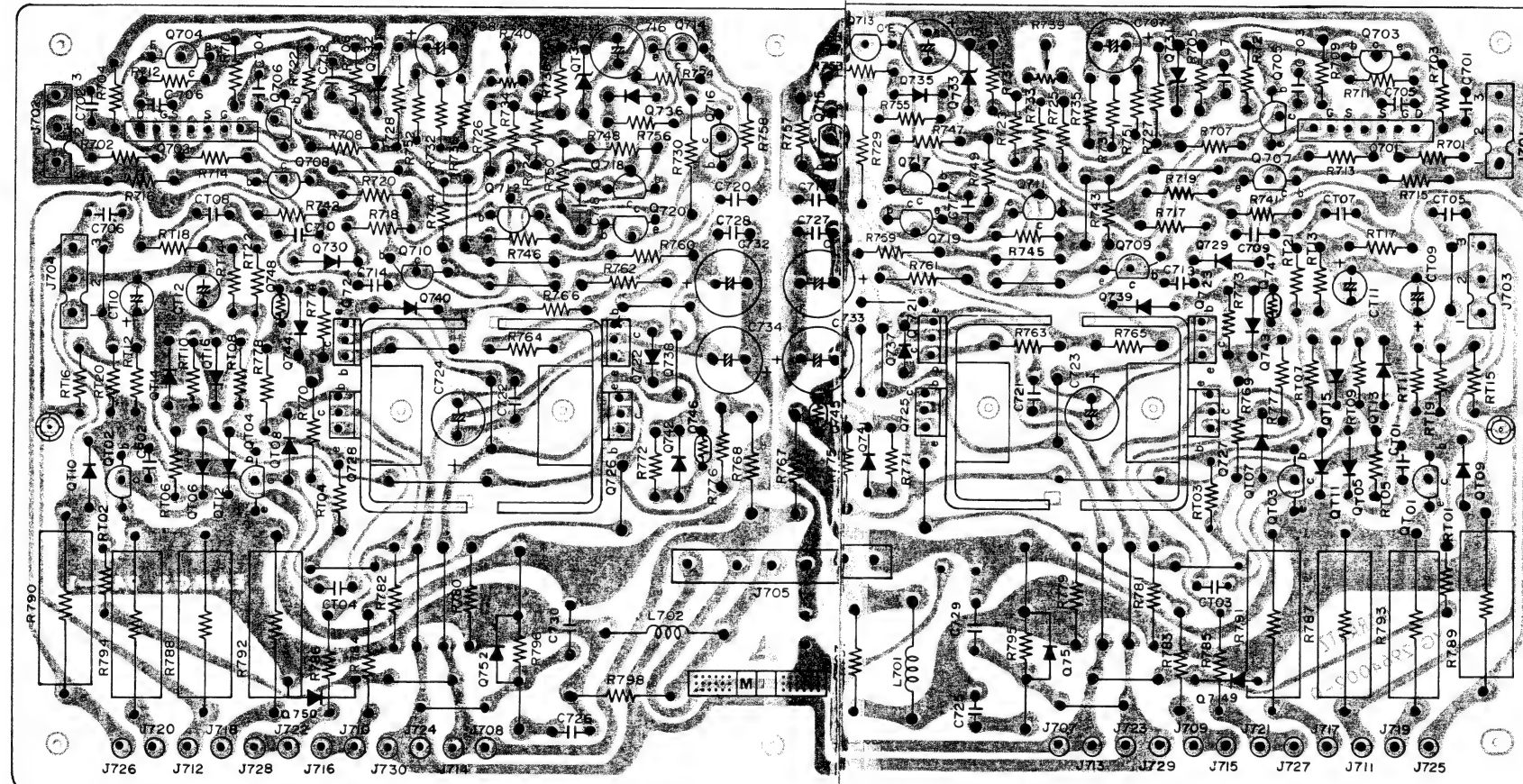
• Tone Amp. Assembly (PE00) Component Locations



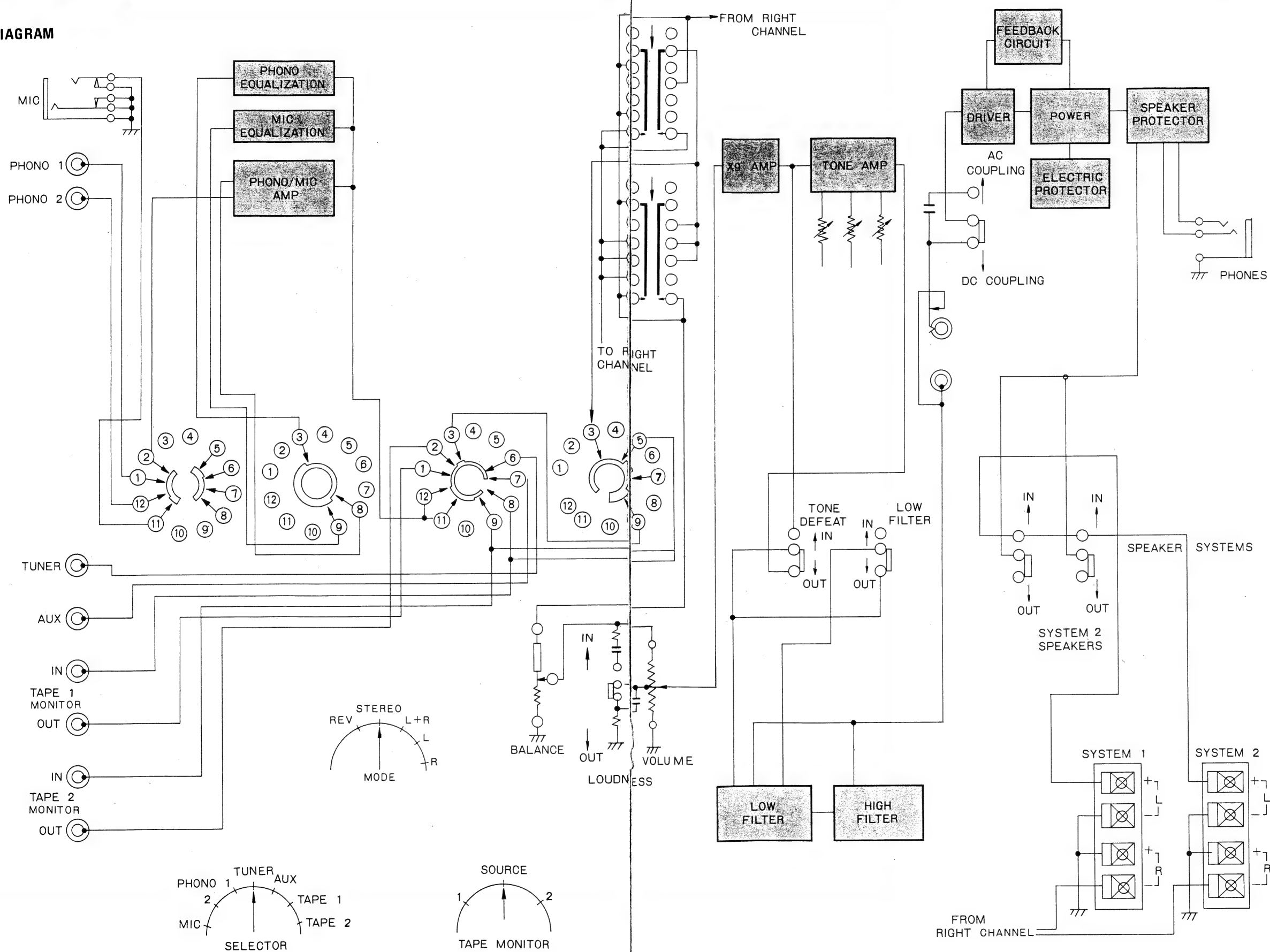
5.8 Main Amp. Assembly (P700) Schematic Diagram



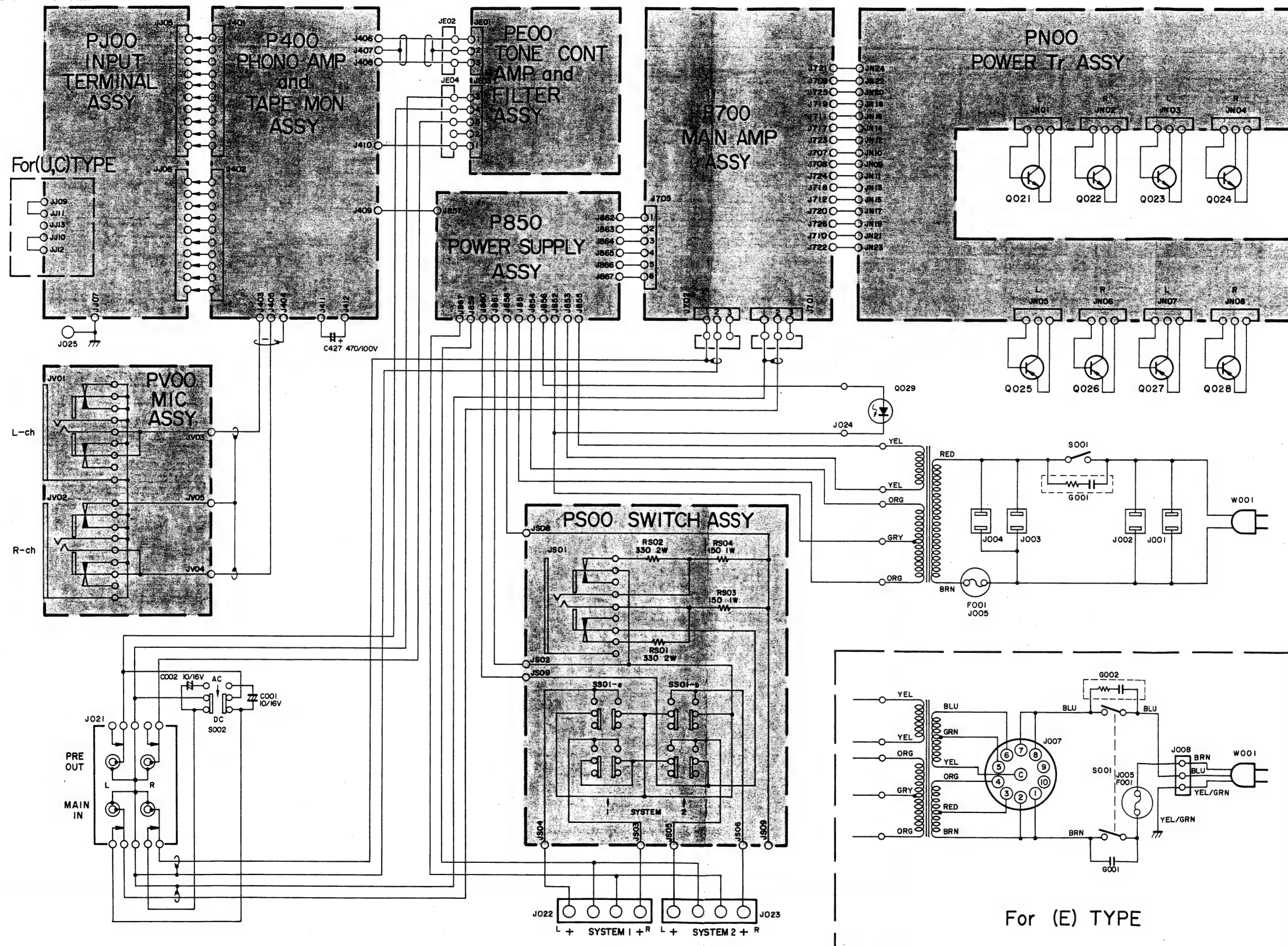
• Main Amp. Assembly (P700) Component Locations



6. BLOCK DIAGRAM

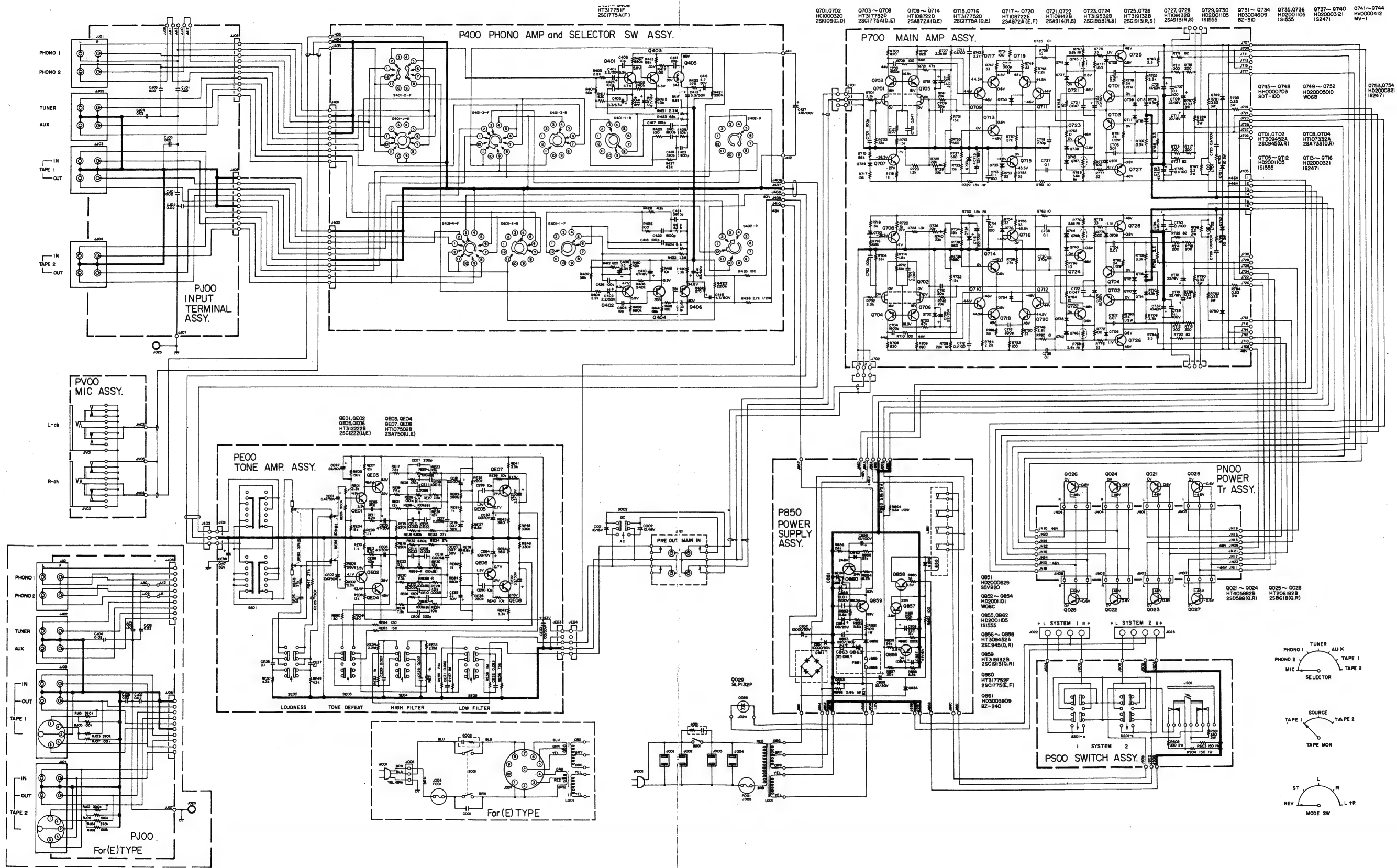


7. CONNECTION DIAGRAM





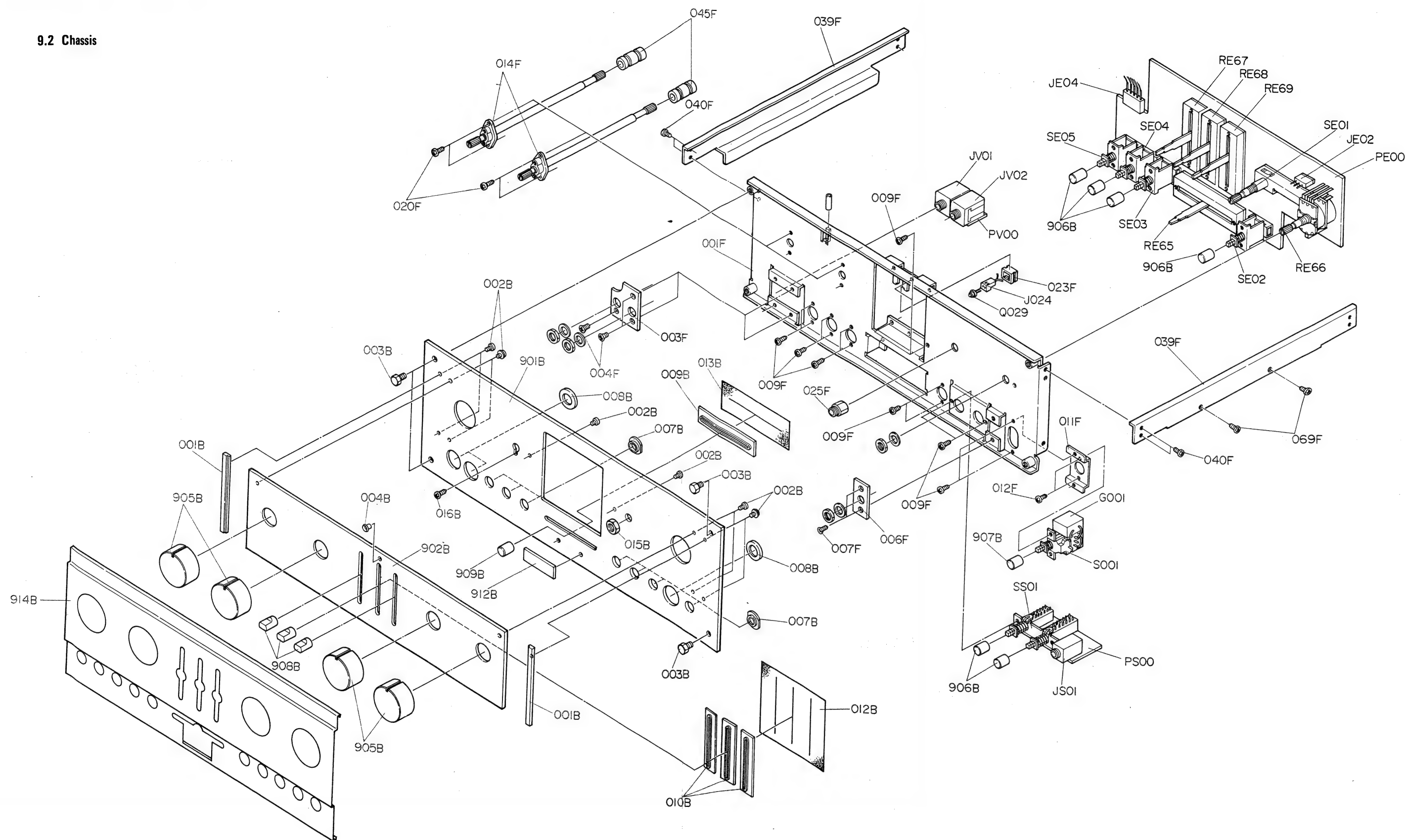
8. SCHEMATIC DIAGRAM



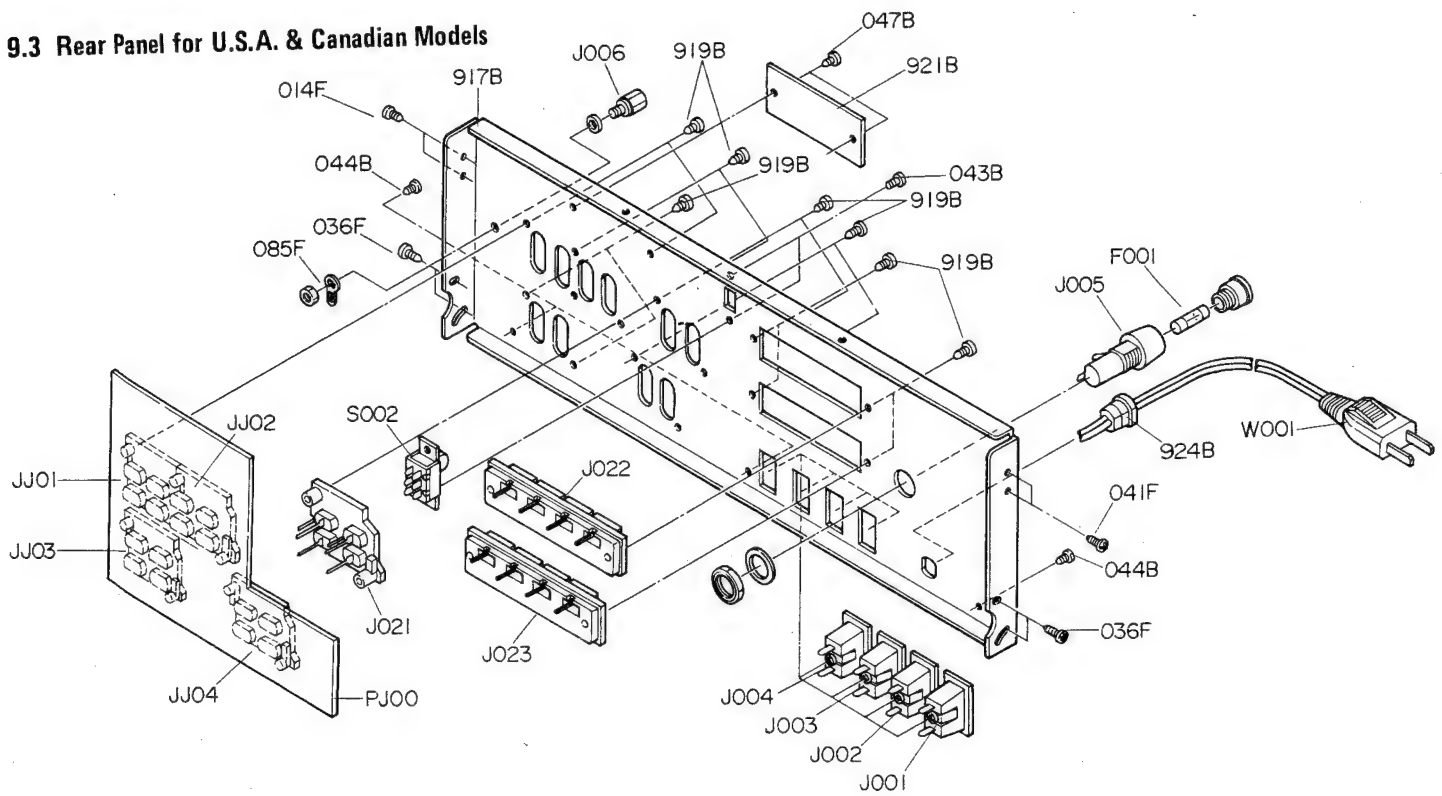
9.1 Cabinet



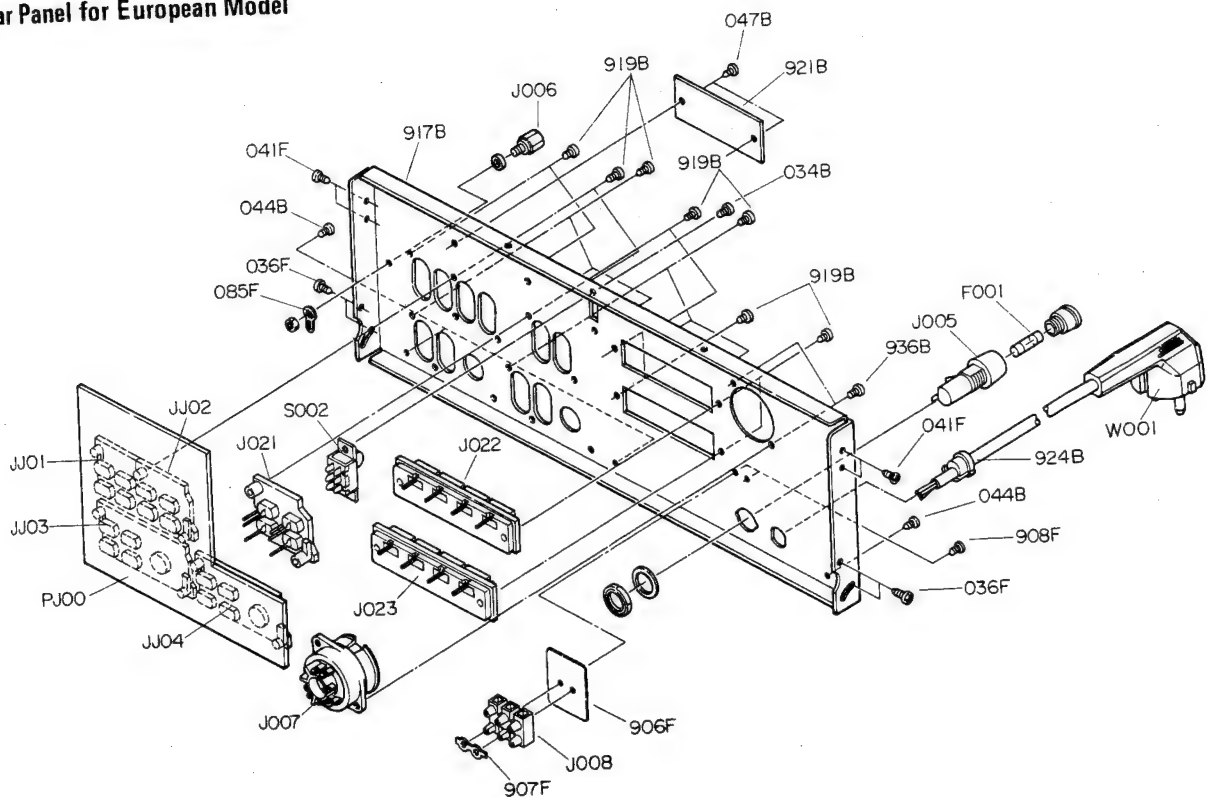
9.2 Chassis



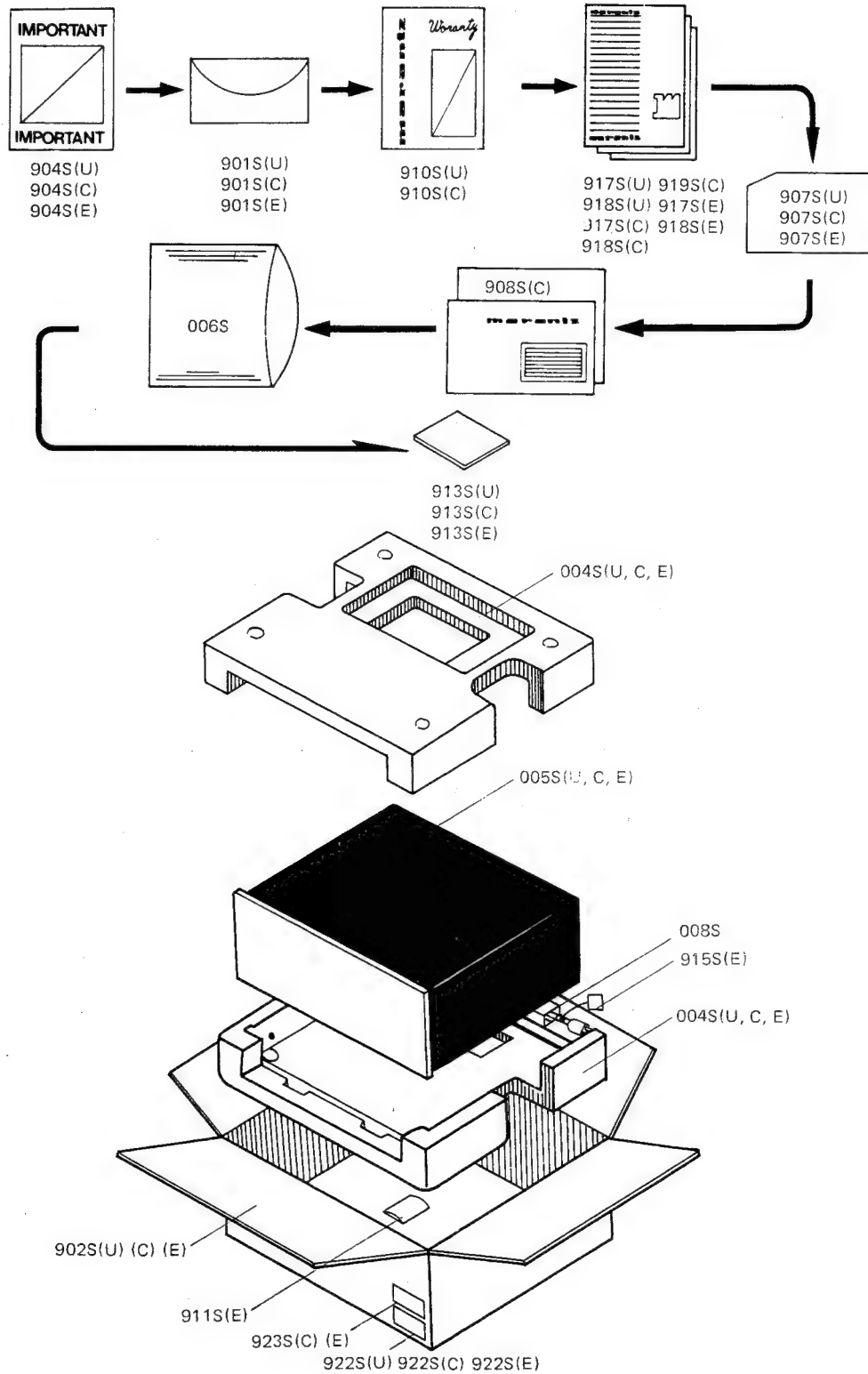
9.3 Rear Panel for U.S.A. & Canadian Models



9.4 Rear Panel for European Model



10. PACKING MATERIAL EXPLODED VIEW



11. PARTS LIST

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
A	1	1	1	2963063400	Front Panel Assembly
001B	2	2	2	2965063050	Escutcheon
002B	10	10	10	51480306A9	F. Washer Screw
004B	1	1	1	2979259022	Bushing
007B	7	7	7	2978259012	Bushing
008B	3	3	3	2978259020	Bushing
009B	1	1	1	2926259040	Bushing
010B	3	3	3	2970259010	Bushing
012B	1	1	1	2970303010	Mask
013B	1	1	1	2926303020	Mask
901B	1	1	1	2963063014	Escutcheon
902B	1	1	1	2963063022	Escutcheon
912B	1	1	1	2979251040	Badge
914B	1	1	1	2963053012	Cover
P407	4	4	4	3444118050	Spacer
P412	8	8	8	75061751P0	Jumper
P708	84	84	84	2933118020	Spacer
P711	26	26	26	75061001P0	Jumper
P712	6	6	6	75061501P0	Jumper
P857	8	8	8	3444118050	Spacer
001F	1	1	1	2963160010	Bracket
003B	4	4	4	52017069J0	H. Head Bolt
003F	1	1	1	2963120012	Insulator
004F	3	3	3	51340306B0	F. H. Tapped Screw, F3 x 6
004S	2	2	2	2963809020	Cushion
005S	1	1	1	9014335330	Polyethylene Bag
006F	1	1	1	2970120020	Insulator
006S	1	1	1	9013025010	Polyethylene Bag
007F	2	2	2	51340306B0	F. H. Tapped Screw, F3 x 6
008S	1	1	1	2864804010	Sleeve
009F	17	17	17	51100306A0	B. H. M. Screw, B3 x 6
011F	1	1	1	2963160090	Bracket
012F	2	2	2	51100306A0	B. H. M. Screw, B3 x 6
014F	2	2	2	2963112503	Shaft
015B	1	1	1	53118179A0	Hexagon Nut
016B	1	1	1	51302608B0	P. H. Tapped Screw, P2.6 x 8
020B	1	1	1	2963257013	Lid
020F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
021B	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
022B	4	4	4	51480406S9	F. Washer Screw, F4 x 6
023B	6	6	6	2979259030	Bushing
023F	1	1	1	2978259060	Bushing
025F	1	1	1	2970101010	Support
031B	1	1	1	2963105505	Chassis
031F	1	1	1	2963160080	Bracket
032F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
035F	2	2	2	51100306S9	B. H. M. Screw, B3 x 6
036B	3	3	3	51280410U0	B. H. Tapped Screw, B4 x 10
036F	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
038B	4	4	4	2932057010	Leg
039B	4	4	4	51570410S0	P. Tapped Screw, P4 x 10
039F	2	2	2	2963126010	Stay
040F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
041F	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
043B	2	2	2	51100306S9	B. H. M. Screw, B3 x 6
044B	3	3	3	51280308U0	B. H. Tapped Screw, B3 x 8
045F	2	2	2	2963125010	Joint
046F	1	1	1	2963160020	Bracket
047B	2	2	2	51760306B0	OS Tapped Screw, O3 x 6
047F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
048F	1	1	1	2963109010	Shield
049F	1	1	1	2963105022	Chassis
050B	2	2	2	51100306S9	B. H. M. Screw, B3 x 6
050F	4	4	4	51490510A9	L. Washer Screw, L5 x 10
051B	4	4	4	51100410S9	B. H. M. Screw, B4 x 10
051F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
052B	3	3	3	51280308U0	B. H. Tapped Screw, B3 x 8
052F	1	1	1	2963267014	Heatsink
053F	2	2	2	2963160140	Bracket
054F	1	1	1	2963160130	Bracket
055F	1	1	1	2963160040	Bracket
056F	4	4	4	2963267042	Heat Sink
057F	8	8	8	51280306U0	B. H. Tap Screw
059F	1	1	1	2963120020	Insulator
061F	5	5	5	51280306B0	B. H. Tapped Screw, B3 x 6
062F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
063F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
065F	5	5	5	51280306B0	B. H. Tapped Screw, B3 x 6
069F	2	2	2	51280308B0	B. H. Tapped Screw, B3 x 8
072F	16	16	16	51470312B9	L. Washer Screw, L3 x 12
075F	4	4	4	2212267020	Heatsink
076F	4	4	4	51100305S9	B. H. M. Screw, B3 x 5
077F	4	4	4	51280305U0	B. H. Tapped Screw, B3 x 5
078F	4	4	4	51280308U0	B. H. Tapped Screw, B3 x 8
081F	1	1	1	2915267020	Heatsink
082F	1	1	1	5128306U0	B. H. Tapped Screw, B3 x 6
085F	1	1	1	62030049W0	Lug
087F	1	1	1	2963109020	Shield
088F	1	1	1	51280306B0	B. H. Tapped Screw, B3 x 6
089F	1	1	1	62030049W0	Lug
090F	1	1	1	2922120010	Insulator
901S	1			2577813010	Envelope
901S			1	2818813010	Envelope
901S	1			2918813012	Envelope
902S	1	1	1	2963801010	Packing Case
904S	1			2577851020	Instructions
904S		1	1	2818851120	Instructions
905B	4	4	4	2963154010	Knob
906B	6	6	6	2963154032	Knob
906F	1			4113120010	Insulator
907B	1	1	1	2963154022	Knob
907F			1	2970005010	Clamper
907S	1			2577854012	Guarantee Card
907S		1	1	96300000180	Guarantee Card
908B	3	3	3	2970154023	Knob
908F			2	51100314S9	B. H. M. Screw, B3 x 14
908S	1			9650000050	S. Station Card
909B	1	1	1	2970154012	Knob
910S	1			2818854022	Guarantee Card
910S		1		2818854040	Guarantee Card
911S			1	2731821010	Silicagel

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
913S	1			2818851040	Instructions
913S		1	1	2818851140	Instructions
915S			1	9560000042	Hang Tag
917B	1	1		2963160214	Bracket
917B			1	2963160223	Bracket
917S	1			2963851010	Instructions
917S		1	1	2963851310	Instructions
918S			1	2886851100	Instructions
918S	1			2963851020	Instructions
918S			1	2963851030	Instructions
919B	14	14	16	51280308U0	B.H. Tapped Screw, B3 x 8
919S		1		2963851050	Instructions
921B	1			2963265010	Indicator
921B		1		2963265020	Indicator
921B			1	2963265030	Indicator
922S	3			9522815010	Serial No. Card
922S		3		9523015110	Serial No. Card
922S		3		9523015120	Serial No. Card
923S		2	2	9510901020	Label
924B	1	1		1455259030	Bushing
924B			1	1455259040	Bushing
925B	1	1	2	62040029W0	Lug
930B	1			2991861010	Label
931B	1		1	2578861010	Label
931B		1		2911861110	Label
932B		1		2911861143	Label
932B	1		1	2932861012	Label
933B		1		9510911010	Label
933B	1			9511101010	Label
935B		1		2911861270	Label
936B		1		2911861012	Label
936B			2	51280306U0	B.H. Tapped Screw, B3 x 6
937B		1		2911861192	Label
938B		1		2911861162	Label
CE01	1	1	1	EE47405040	Electrolytic Cap., 0.47 μ F \pm 20% 50V
CE02	1	1	1	EE47405040	Electrolytic Cap., 0.47 μ F \pm 20% 50V
CE05	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V
CE06	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V
CE07	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10% 50V
CE08	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10% 50V
CE09	1	1	1	DF15152010	Film Cap., 1500pF \pm 5% 50V
CE10	1	1	1	DF15152010	Film Cap., 1500pF \pm 5% 50V
CE11	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V
CE12	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V
CE13	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V
CE14	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V
CE15	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V
CE16	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V
CE17	1	1	1	DF15682010	Film Cap., 6800pF \pm 5% 50V
CE18	1	1	1	DF15682010	Film Cap., 6800pF \pm 5% 50V
CE19	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V
CE20	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V
CE21	1	1	1	EA33505090	Electrolytic Cap., 3.3 μ F 50V
CE22	1	1	1	EA33505090	Electrolytic Cap., 3.3 μ F 50V
CE25	1	1	1	DF15103010	Film Cap., 0.001 μ F \pm 5% 50V
CE26	1	1	1	DF15103010	Film Cap., 0.001 μ F \pm 5% 50V
CE27	1	1	1	DF16104010	Film Cap., 0.1 μ F \pm 20% 50V
CE28	1	1	1	DF16104010	Film Cap., 0.1 μ F \pm 20% 50V
CE29	1	1	1	DF15273010	Film Cap., 0.027 μ F \pm 5% 50V
CE30	1	1	1	DF15273010	Film Cap., 0.027 μ F \pm 5% 50V
CE31	1	1	1	DF15823050	Film Cap., 0.082 μ F \pm 5% 50V
CE32	1	1	1	DF15823050	Film Cap., 0.082 μ F \pm 5% 50V
CE33	1	1	1	EA10705090	Electrolytic Cap., 100 μ F 50V
CE81	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
CE82	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
CE83	1	1	1	EA10701090	Electrolytic Cap., 100 μ F 10V
CE84	1	1	1	EA10701090	Electrolytic Cap., 100 μ F 10V
CE85	1	1	1	DD15400010	Ceramic Cap., 40pF \pm 5% 50V
CE86	1	1	1	DD15400010	Ceramic Cap., 40pF \pm 5% 50V
CE87	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
CE88	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V
JE01	1	1	1	YP06001040	Plug, Input Basepost
JE02	1	1	1	YJ06001240	Jack, Input
JE03	1	1	1	YP06001050	Plug, Output Basepost
JE04	1	1	1	YJ06001250	Jack, Output
PE00	1	1	1	YK29631310	PE00 TONE CONTROL BOARD
	1	1	1	ZZ29631310	P.W. Board Assembly
QE01	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
QE02	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
QE03	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
QE04	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
QE05	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
QE06	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
QE07	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
QE08	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
RE01	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
RE02	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
RE03	1	1	1	RT05154140	Resistor, 150k Ω \pm 5% $\frac{1}{4}$ W
RE04	1	1	1	RT05163140	Resistor, 16k Ω \pm 5% $\frac{1}{4}$ W
RE05	1	1	1	RT05564140	Resistor, 560k Ω \pm 5% $\frac{1}{4}$ W
RE06	1	1	1	RT05564140	Resistor, 560k Ω \pm 5% $\frac{1}{4}$ W
RE07	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE08	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE09	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE10	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE11	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
RE12	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
RE15	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
RE16	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
RE17	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE18	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE19	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE20	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE21	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE22	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE23	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
RE24	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
RE25	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
RE26	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
RE27	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE28	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE29	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	QTY			PART NO.	DESCRIPTION
	U	C	E		
RE30	1	1	1	RT05123140	Resistor, 12kΩ ±5% ¼W
RE31	1	1	1	RT05684140	Resistor, 680kΩ ±5% ¼W
RE32	1	1	1	RT05684140	Resistor, 680kΩ ±5% ¼W
RE33	1	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
RE34	1	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
RE35	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
RE36	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
RE37	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
RE38	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
RE39	1	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
RE40	1	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
RE41	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
RE42	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
RE43	1	1	1	RT05361140	Resistor, 360Ω ±5% ¼W
RE44	1	1	1	RT05361140	Resistor, 360Ω ±5% ¼W
RE45	1	1	1	RT05334140	Resistor, 330kΩ ±5% ¼W
RE46	1	1	1	RT05334140	Resistor, 330kΩ ±5% ¼W
RE47	1	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
RE48	1	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
RE49	1	1	1	RT05432140	Resistor, 4.3kΩ ±5% ¼W
RE50	1	1	1	RT05432140	Resistor, 4.3kΩ ±5% ¼W
RE51	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
RE52	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
RE53	1	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W
RE54	1	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W
RE55	1	1	1	RT05753140	Resistor, 75kΩ ±5% ¼W
RE56	1	1	1	RT05753140	Resistor, 75kΩ ±5% ¼W
RE57	1	1	1	RT05105140	Resistor, 1MΩ ±5% ¼W
RE58	1	1	1	RT05105140	Resistor, 1MΩ ±5% ¼W
RE59	1	1	1	RT05151140	Resistor, 150Ω ±5% ¼W
RE60	1	1	1	RT05151140	Resistor, 150Ω ±5% ¼W
RE63	1	1	1	RT05151140	Resistor, 150Ω ±5% ¼W
RE64	1	1	1	RT05151140	Resistor, 150Ω ±5% ¼W
RE65	1	1	1	RS05030320	Variable Resistor, 50kΩ Balance
RE66	1	1	1	RM05030670	Variable Resistor, 50kΩ Volume
RE67	1	1	1	RS01040040	Variable Resistor, 100kΩ Treble
RE68	1	1	1	RS01040040	Variable Resistor, 100kΩ Mid
RE69	1	1	1	RS01040040	Variable Resistor, 100kΩ Bass
RE81	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
RE82	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
RE83	1	1	1	RT05564140	Resistor, 560kΩ ±5% ¼W
RE84	1	1	1	RT05564140	Resistor, 560kΩ ±5% ¼W
SE01	1	1	1	SR04050100	Rotary Switch, Mode
SE02	1	1	1	SP04010210	Pushswitch, Loudness
SE03	1	1	1	SP04010210	Pushswitch, Tone Defeat
SE04	1	1	1	SP04010210	Pushswitch, High Filter, 5kHz
SE05	1	1	1	SP04010210	Pushswitch, Low Filter, 60Hz
CJ01	1	1	1	DK18203010	Ceramic Cap., 0.02μF 50V
CJ02	1	1	1	DK18203010	Ceramic Cap., 0.02μF 50V
JJ01	1	1	1	YT02040150	Terminal, Phono 1,2 Input
JJ02	1	1	1	YT02040150	Terminal, Tuner Aux Input
JJ03	1	1	1	BY01050060	Jack, Tape 1 Input Output
JJ03	1	1	1	YT02040150	Terminal, Tape 1 Input Output
JJ04	1	1	1	BY01050060	Jack, Tape 2 Input Output
JJ04	1	1	1	YT02040150	Terminal, Tape 2 Input Output
JJ05	1	1	1	YJ06000400	Jack, 10P Connector
JJ06	1	1	1	YJ06000400	Jack, 10P Connector
PJ00	1	1	1	YF29630010	P.W. Board
	1	1	1	ZZ29631010	P.W. Board Assembly
			1	ZZ29638010	P.W. Board Assembly
RJ01			1	RT05394140	Resistor, 390kΩ ±5% ¼W
RJ02			1	RT05394140	Resistor, 390kΩ ±5% ¼W
RJ03			1	RT05394140	Resistor, 390kΩ ±5% ¼W
RJ04			1	RT05394140	Resistor, 390kΩ ±5% ¼W
RJ05			1	RT05104140	Resistor, 100kΩ ±5% ¼W
RJ06			1	RT05104140	Resistor, 100kΩ ±5% ¼W
RJ07			1	RT05104140	Resistor, 100kΩ ±5% ¼W
RJ08			1	RT05104140	Resistor, 100kΩ ±5% ¼W
JN01			?		
JN08	8	8	8	YJ06001530	Jack, TR Socket
PN00	1	1	1	YF29630020	P.W. Board
	1	1	1	ZZ29630020	P.W. Board Assembly
JN01			?		
JN08	1	1	1	YJ06001530	Jack
JS01	1	1	1	YJ01000860	Jack, Headphone
PS00	1	1	1	YK29631320	P.W. Board
	1	1	1	ZZ29631320	P.W. Board Assembly
RS01	1	1	1	GJ05331020	Resistor, 330Ω ±5% 2W
RS02	1	1	1	GJ05331020	Resistor, 330Ω ±5% 2W
RS03	1	1	1	GJ05151010	Resistor, 150Ω ±5% 1W
RS04	1	1	1	GJ05151010	Resistor, 150Ω ±5% 1W
SS01	1	1	1	SP08020030	Pushswitch, Speaker
CT01	1	1	1	DF16103010	Film Cap., 0.01μF ±10% 50V
CT02	1	1	1	DF16103010	Film Cap., 0.01μF ±10% 50V
CT03	1	1	1	DF16103010	Film Cap., 0.01μF ±10% 50V
CT04	1	1	1	DF16103010	Film Cap., 0.01μF ±10% 50V
CT09	1	1	1	EE22601640	Electrolytic Cap., 22μF 16V
CT10	1	1	1	EE22601640	Electrolytic Cap., 22μF 16V
CT11	1	1	1	EE22601640	Electrolytic Cap., 22μF 16V
CT12	1	1	1	EE22601640	Electrolytic Cap., 22μF 16V
QT01	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
QT02	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
QT03	1	1	1	HT107332A0	Transistor, 2SA733 (Q or R)
QT04	1	1	1	HT107332A0	Transistor, 2SA733 (Q or R)
QT05	1	1	1	HD20011050	Diode, 1S1555
QT06	1	1	1	HD20011050	Diode, 1S1555
QT07	1	1	1	HD20011050	Diode, 1S1555
QT08	1	1	1	HD20011050	Diode, 1S1555
QT09	1	1	1	HD20011050	Diode, 1S1555
QT10	1	1	1	HD20011050	Diode, 1S1555
QT11	1	1	1	HD20011050	Diode, 1S1555
QT12	1	1	1	HD20011050	Diode, 1S1555
QT13	1	1	1	HD20003210	Diode, 1S2471
QT14	1	1	1	HD20003210	Diode, 1S2471
QT15	1	1	1	HD20003210	Diode, 1S2471
QT16	1	1	1	HD20003210	Diode, 1S2471
RT05	1	1	1	GU05332120	Resistor, 3.3kΩ ±5% ¼W
RT06	1	1	1	GU05332120	Resistor, 3.3kΩ ±5% ¼W
RT07	1	1	1	GU05332120	Resistor, 3.3kΩ ±5% ¼W

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
RT08	1	1	1	GU05332120	Resistor, 3.3k Ω \pm 5% $\frac{1}{4}$ W
RT09	1	1	1	GU05432120	Resistor, 4.3k Ω \pm 5% $\frac{1}{4}$ W
RT10	1	1	1	GU05432120	Resistor, 4.3k Ω \pm 5% $\frac{1}{4}$ W
RT11	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT12	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT13	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT14	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT15	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT16	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT17	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT18	1	1	1	GD05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
RT19	1	1	1	GD05820140	Resistor, 82 Ω \pm 5% $\frac{1}{4}$ W
RT20	1	1	1	GD05820140	Resistor, 82 Ω \pm 5% $\frac{1}{4}$ W
RT21	1	1	1	GD05820140	Resistor, 82 Ω \pm 5% $\frac{1}{4}$ W
RT22	1	1	1	GD05820140	Resistor, 82 Ω \pm 5% $\frac{1}{4}$ W
JV01	1	1	1	YJ01000860	Jack, Microphone L-ch.
JV02	1	1	1	YJ01000860	Jack, Microphone R-ch.
PV00 MIC JACK BOARD					
PV00	1	1	1	YK29631330	P.W. Board
	1	1	1	ZZ29631330	P.W. Board Assembly
C001	1	1	1	EQ10601610	Electrolytic Cap., 10 μ F \pm 10% 16V
C002	1	1	1	EQ10601610	Electrolytic Cap., 10 μ F \pm 10% 16V
F001	1	1		FS10400050	Fuse, 30mm
F001			1	FS10400800	Fuse, SEMKO (20mm Type) 4AT
G001	1			BF10400040	Cap. Comp.
G001		1		BF33300020	Cap. Comp., 0.033 μ F+120 Ω ECQ-JC
G001			1	DO07473540	Oil-Paper Cap., ECN-C4A SEMKO
G002			1	BF33300010	Cap. Comp., 0.033 μ F+120 Ω AC
J001					
J004	4	4	4	YJ04000560	Jack, AC Outlet
J005			1	YJ08000220	Jack, Fuse Holder (20mm Type)
J005	1	1		YJ08000230	Jack, Fuse Holder
J006			1	YT01010050	Terminal, Ground
J007			1	BY03110010	Plug, Voltage Selector
J008			1	YL09030010	Terminal, 3P
J021	1	1	1	YT02040170	Terminal, Pre In, Main Out
J022	1	1	1	YT03040160	Terminal, Speaker
J023	1	1	1	YT03040160	Terminal, Speaker
J024	1	1	1	YJ05000250	Jack, LED Socket
J025	1	1	1	YT01010050	Terminal, Ground
L001	1	1		TS60506010	Power Transformer, 120V 60 Hz
L001			1	TS60506020	Power Transformer, SEMKO
Q021	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q022	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q023	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q024	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q025	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q026	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q027	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q028	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q029	1	1	1	HI10004030	L.E.D., SLP-132P
S001	1	1		SP02010280	Pushswitch, Power
S001			1	SP02010300	Pushswitch, SEMKO
S002	1	1	1	SS02020380	Slide Switch, DC/AC Coupling
W001			1	YC01900030	A.C. Power Cord

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
W001	1	1		YC02400220	A.C. Power Cord
C401	1	1	1	EE22505040	Electrolytic Cap., 2.2 μ F \pm 20% 50V
C402	1	1	1	EE22505040	Electrolytic Cap., 2.2 μ F \pm 20% 50V
C403	1	1	1	DD12100010	Ceramic Cap., 10pF \pm 5% 50V
C404	1	1	1	DD12100010	Ceramic Cap., 10pF \pm 5% 50V
C405	1	1	1	EV33600660	Electrolytic Cap., 33 μ F \pm 20% 6.3V
C406	1	1	1	EV33600660	Electrolytic Cap., 33 μ F \pm 20% 6.3V
C409	1	1	1	EA47601090	Electrolytic Cap., 47 μ F 10V
C410	1	1	1	EA47601090	Electrolytic Cap., 47 μ F 10V
C411	1	1	1	DD16200010	Ceramic Cap., 20pF \pm 10% 50V
C412	1	1	1	DD16200010	Ceramic Cap., 20pF \pm 10% 50V
C413	1	1	1	EE33505040	Electrolytic Cap., 3.3 μ F \pm 20% 50V
C414	1	1	1	EE33505040	Electrolytic Cap., 3.3 μ F \pm 20% 50V
C415	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V
C416	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V
C417	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10% 50V
C418	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10% 50V
C419	1	1	1	DF65391500	Film Cap., 390pF \pm 5% 125V
C420	1	1	1	DF65391500	Film Cap., 390pF \pm 5% 125V
C421	1	1	1	DF14122010	Film Cap., 1200pF \pm 2% 50V
C422	1	1	1	DF14122010	Film Cap., 1200pF \pm 2% 50V
C423	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V
C424	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V
C425	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10% 50V
C426	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10% 50V
C427	1	1	1	EA10710010	Electrolytic Cap., 100 μ F 100V
J401	1	1	1	YP06000400	Plug
J402	1	1	1	YP06000400	Plug
P400 PHONO AMP. BOARD					
P400	1	1	1	YG29630012	P.W. Board
	1	1	1	ZZ29630010	P.W. Board Assembly
P407	4	4	4	3444118050	Spacer, for R435, R436
Q401	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q402	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q403	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q404	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q405	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q406	1	1	1	HT317751F0	Transistor, 2SC1775A F
R401	1	1	1	RT05623140	Resistor, 56k Ω \pm 5% $\frac{1}{4}$ W
R402	1	1	1	RT05623140	Resistor, 56k Ω \pm 5% $\frac{1}{4}$ W
R403	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
R404	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
R405	1	1	1	RT05334140	Resistor, 330k Ω \pm 5% $\frac{1}{4}$ W
R406	1	1	1	RT05334140	Resistor, 330k Ω \pm 5% $\frac{1}{4}$ W
R407	1	1	1	RT05684140	Resistor, 680k Ω \pm 5% $\frac{1}{4}$ W
R408	1	1	1	RT05684140	Resistor, 680k Ω \pm 5% $\frac{1}{4}$ W
R409	1	1	1	RT05433140	Resistor, 43k Ω \pm 5% $\frac{1}{4}$ W
R410	1	1	1	RT05433140	Resistor, 43k Ω \pm 5% $\frac{1}{4}$ W
R411	1	1	1	RT02621140	Resistor, 620 Ω \pm 2% $\frac{1}{4}$ W
R412	1	1	1	RT02621140	Resistor, 620 Ω \pm 2% $\frac{1}{4}$ W
R413	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
R414	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
R415	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
R416	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
R417	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R418	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R419	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
R420	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
R421	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R422	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R423	1	1	1	RT02683140	Resistor, 68k Ω \pm 2% $\frac{1}{4}$ W
R424	1	1	1	RT02683140	Resistor, 68k Ω \pm 2% $\frac{1}{4}$ W
R425	1	1	1	RT02101140	Resistor, 100 Ω \pm 2% $\frac{1}{4}$ W
R426	1	1	1	RT02101140	Resistor, 100 Ω \pm 2% $\frac{1}{4}$ W
R427	1	1	1	RT02473140	Resistor, 47k Ω \pm 2% $\frac{1}{4}$ W
R428	1	1	1	RT02473140	Resistor, 47k Ω \pm 2% $\frac{1}{4}$ W
R429	1	1	1	RT02824140	Resistor, 820k Ω \pm 2% $\frac{1}{4}$ W
R430	1	1	1	RT02824140	Resistor, 820k Ω \pm 2% $\frac{1}{4}$ W
R431	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
R432	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
R433	1	1	1	RT05271140	Resistor, 270 Ω \pm 5% $\frac{1}{4}$ W
R434	1	1	1	RT05271140	Resistor, 270 Ω \pm 5% $\frac{1}{4}$ W
R435	1	1	1	GF05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R436	1	1	1	GF05332120	Resistor, 3.3k Ω \pm 5% $\frac{1}{4}$ W
S401	1	1	1	SR09070010	Rotary Switch, Selector
S402	1	1	1	SR02030060	Rotary Switch, Tape Monitor
C701	1	1	1	DF65101010	Film Cap., 100pF \pm 5% 50V
C702	1	1	1	DF65101010	Film Cap., 100pF \pm 5% 50V
C703	1	1	1	DF65162010	Film Cap., 1600pF \pm 5% 50V
C704	1	1	1	DF65162010	Film Cap., 1600pF \pm 5% 50V
C705	1	1	1	DF16473010	Film Cap., 0.047 μ F \pm 10% 50V
C706	1	1	1	DF16473010	Film Cap., 0.047 μ F \pm 10% 50V
C707	1	1	1	EA22603590	Electrolytic Cap., 22 μ F 35V
C708	1	1	1	EA22603590	Electrolytic Cap., 22 μ F 35V
C709	1	1	1	DD15500500	Ceramic Cap., 50pF \pm 5% 500V
C710	1	1	1	DD15500500	Ceramic Cap., 50pF \pm 5% 500V
C711	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C712	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C713	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C714	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C715	1	1	1	EA22603590	Electrolytic Cap., 22 μ F 100V
C716	1	1	1	EA22603590	Electrolytic Cap., 22 μ F 100V
C717	1	1	1	DF65301510	Film Cap., 300pF \pm 5%
C718	1	1	1	DF65301510	Film Cap., 300pF \pm 5%
C719	1	1	1	DF65271510	Film Cap., 270pF \pm 5%
C720	1	1	1	DF65271510	Film Cap., 270pF \pm 5%
C721	1	1	1	DF16473010	Film Cap., 0.047 μ F \pm 10% 50V
C722	1	1	1	DF16473010	Film Cap., 0.047 μ F \pm 10% 50V
C723	1	1	1	EA10605090	Electrolytic Cap., 10 μ F 50V
C724	1	1	1	EA10605090	Electrolytic Cap., 10 μ F 50V
C725	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C726	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C727	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C728	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C729	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C730	1	1	1	DF17104540	Film Cap., 0.1 μ F 100V
C731	1	1	1	EA47606390	Electrolytic Cap., 47 μ F 63V
C732	1	1	1	EA47606390	Electrolytic Cap., 47 μ F 63V
C733	1	1	1	EA47606390	Electrolytic Cap., 47 μ F 63V
C734	1	1	1	EA47606390	Electrolytic Cap., 47 μ F 63V
C735	1	1	1	DF16104010	Film Cap., 0.1 μ F 50V
C736	1	1	1	DF16104010	Film Cap., 0.1 μ F 50V
C737	1	1	1	DF16104010	Film Cap., 0.1 μ F 50V
C738	1	1	1	DF16104010	Film Cap., 0.1 μ F 50V
J701	1	1	1	YP06001040	Plug, 3P
J702	1	1	1	YP06001040	Plug, 3P
J705	1	1	1	YP06000540	Plug, 6P (SMK)
L701	1	1	1	LL23915120	Choke Coil
L702	1	1	1	LL23915120	Choke Coil
P700	1	1	1	YG29640020	P.W. Board
	1	1	1	ZZ29631020	P.W. Board Assembly
Q701	1	1	1	HC10003200	IC, 2SK109 (C or D)
Q702	1	1	1	HC10003200	IC, 2SK109 (C or D)
Q703	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q704	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q705	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q706	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q707	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q708	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q709	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q710	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q711	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q712	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q713	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q714	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
Q715	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q716	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
Q717	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
Q718	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
Q719	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
Q720	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
Q721	1	1	1	HT109142B0	Transistor, 2SA914 (R or S)
Q722	1	1	1	HT109142B0	Transistor, 2SA914 (R or S)
Q723	1	1	1	HT319532B0	Transistor, 2SC1953 (R or S)
Q724	1	1	1	HT319532B0	Transistor, 2SC1953 (R or S)
Q725	1	1	1	HT319132B0	Transistor, 2SC1913 (R or S)
Q726	1	1	1	HT319132B0	Transistor, 2SC1913 (R or S)
Q727	1	1	1	HT109132B0	Transistor, 2SA913 (R or S)
Q728	1	1	1	HT109132B0	Transistor, 2SA913 (R or S)
Q729	1	1	1	HD20011050	Diode, 1S1555
Q730	1	1	1	HD20011050	Diode, 1S1555
Q731	1	1	1	HD30046090	Zener, WZ-310
Q732	1	1	1	HD30046090	Zener, WZ-310
Q733	1	1	1	HD30046090	Zener, WZ-310
Q734	1	1	1	HD30046090	Zener, WZ-310
Q735	1	1	1	HD20011050	Diode, 1S1555
Q736	1	1	1	HD20011050	Diode, 1S1555
Q737	1	1	1	HD20003210	Diode, 1S2471
Q738	1	1	1	HD20003210	Diode, 1S2471
Q739	1	1	1	HD20003210	Diode, 1S2471 (Black)
Q740	1	1	1	HD20003210	Diode, 1S2471
Q741	1	1	1	HV00004120	Varistor, MV-1
Q742	1	1	1	HV00004120	Varistor, MV-1
Q743	1	1	1	HV00004120	Varistor, MV-1
Q744	1	1	1	HV00004120	Varistor, MV-1
Q745	1	1	1	HH00007030	Thermistor, SDT-100
Q746	1	1	1	HH00007030	Thermistor, SDT-100
Q747	1	1	1	HH00007030	Thermistor, SDT-100

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
Q748	1	1	1	HH00007030	Thermistor SDT-100
Q749	1	1	1	HD20005010	Diode, W06B
Q750	1	1	1	HD20005010	Diode, W06B
Q751	1	1	1	HD20005010	Diode, W06B
Q752	1	1	1	HD20005010	Diode, W06B
Q753	1	1	1	HD20003210	Diode, 1S2471
Q754	1	1	1	HD20003210	Diode, 1S2471
R701	1	1	1	GD05332140	Resistor, 3.3kΩ ±5% ¼W
R702	1	1	1	GD05332140	Resistor, 3.3kΩ ±5% ¼W
R703	1	1	1	GD05333140	Resistor, 33kΩ ±5% ¼W
R704	1	1	1	GD05333140	Resistor, 33kΩ ±5% ¼W
R705	1	1	1	GD05821140	Resistor, 820Ω ±5% ¼W
R706	1	1	1	GD05821140	Resistor, 820Ω ±5% ¼W
R707	1	1	1	GD05821140	Resistor, 820Ω ±5% ¼W
R708	1	1	1	GD05821140	Resistor, 820Ω ±5% ¼W
R709	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R710	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R711	1	1	1	GD05513140	Resistor, 51kΩ ±5% ¼W
R712	1	1	1	GD05513140	Resistor, 51kΩ ±5% ¼W
R713	1	1	1	GD05152140	Resistor, 1.5kΩ ±5% ¼W
R714	1	1	1	GD05152140	Resistor, 1.5kΩ ±5% ¼W
R715	1	1	1	GD05823140	Resistor, 82kΩ ±5% ¼W
R716	1	1	1	GD05823140	Resistor, 82kΩ ±5% ¼W
R717	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R718	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R719	1	1	1	GD05102140	Resistor, 1kΩ ±5% ¼W
R720	1	1	1	GD05102140	Resistor, 1kΩ ±5% ¼W
R721	1	1	1	GD05473140	Resistor, 47kΩ ±5% ¼W
R722	1	1	1	GD05473140	Resistor, 47kΩ ±5% ¼W
R723	1	1	1	GD05132140	Resistor, 1.3kΩ ±5% ¼W
R724	1	1	1	GD05132140	Resistor, 1.3kΩ ±5% ¼W
R725	1	1	1	GD05223140	Resistor, 22kΩ ±5% ¼W
R726	1	1	1	GD05223140	Resistor, 22kΩ ±5% ¼W
R727	1	1	1	GJ05222010	Resistor, 2.2kΩ ±5% ¼W
R728	1	1	1	GJ05222010	Resistor, 2.2kΩ ±5% ¼W
R729	1	1	1	GJ05152010	Resistor, 1.5kΩ ±5% ¼W
R730	1	1	1	GJ05152010	Resistor, 1.5kΩ ±5% ¼W
R731	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R732	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R733	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R734	1	1	1	GD05153140	Resistor, 15kΩ ±5% ¼W
R735	1	1	1	GD05561140	Resistor, 560Ω ±5% ¼W
R736	1	1	1	GD05561140	Resistor, 560Ω ±5% ¼W
R737	1	1	1	GD05561140	Resistor, 560Ω ±5% ¼W
R738	1	1	1	GD05561140	Resistor, 560Ω ±5% ¼W
R739	1	1	1	RA02230050	Trimming Resistor, 22kΩ CR29R
R740	1	1	1	RA02230050	Trimming Resistor, 22kΩ CR29R
R741	1	1	1	GD05203140	Resistor, 20kΩ ±5% ¼W
R742	1	1	1	GD05203140	Resistor, 20kΩ ±5% ¼W
R743	1	1	1	GD05222140	Resistor, 2.2kΩ ±5% ¼W
R744	1	1	1	GD05222140	Resistor, 2.2kΩ ±5% ¼W
R745	1	1	1	GD05222140	Resistor, 2.2kΩ ±5% ¼W
R746	1	1	1	GD05222140	Resistor, 2.2kΩ ±5% ¼W
R747	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R748	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R749	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R750	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R751	1	1	1	GD05680140	Resistor, 68Ω ±5% ¼W
R752	1	1	1	GD05680140	Resistor, 68Ω ±5% ¼W
R753	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R754	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R755	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R756	1	1	1	GD05470140	Resistor, 47Ω ±5% ¼W
R757	1	1	1	GD05273140	Resistor, 27kΩ ±5% ¼W
R758	1	1	1	GD05273140	Resistor, 27kΩ ±5% ¼W
R759	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R760	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R761	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R762	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R763	1	1	1	GD05100140	Resistor, 10Ω ±5% ¼W
R764	1	1	1	GD05100140	Resistor, 10Ω ±5% ¼W
R765	1	1	1	GD05100140	Resistor, 10Ω ±5% ¼W
R766	1	1	1	GD05100140	Resistor, 10Ω ±5% ¼W
R767	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W
R768	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W
R769	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W
R770	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W
R771	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R772	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R773	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R774	1	1	1	GD05101140	Resistor, 100Ω ±5% ¼W
R775	1	1	1	GF05330140	Resistor, 33Ω ±5% ¼W
R776	1	1	1	GF05330140	Resistor, 33Ω ±5% ¼W
R777	1	1	1	GF05330140	Resistor, 33Ω ±5% ¼W
R778	1	1	1	GF05330140	Resistor, 33Ω ±5% ¼W
R779	1	1	1	GF05240120	Resistor, 24Ω ±5% ½W
R780	1	1	1	GF05240120	Resistor, 24Ω ±5% ½W
R781	1	1	1	GF05240120	Resistor, 24Ω ±5% ½W
R782	1	1	1	GF05240120	Resistor, 24Ω ±5% ½W
R783	1	1	1	RT05033140	Resistor, 3.3Ω ±5% ¼W
R784	1	1	1	RT05033140	Resistor, 3.3Ω ±5% ¼W
R785	1	1	1	RT05033140	Resistor, 3.3Ω ±5% ¼W
R786	1	1	1	RT05033140	Resistor, 3.3Ω ±5% ¼W
R787	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R788	1	1	1	GW10272030	Resistor, 0.27Ω ±10% 3W
R789	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R790	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R791	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R792	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R793	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R794	1	1	1	GW10332030	Resistor, 0.33Ω ±10% 3W
R795	1	1	1	GJ05100030	Resistor, 10Ω ±5% 3W
R796	1	1	1	GJ05100030	Resistor, 10Ω ±5% 3W
R797	1	1	1	GJ05022020	Resistor, 2.2Ω ±5% 2W
R798	1	1	1	GJ05022020	Resistor, 2.2Ω ±5% 2W
C851	1	1	1	EB10905010	Electrolytic Cap., 10000μF 50V
C852	1	1	1	EB10905010	Electrolytic Cap., 10000μF 50V
C853	1	1	1	EB22716010	Electrolytic Cap., 270μF 160V
C854	1	1	1	EA10725090	Electrolytic Cap., 100μF 25V
C855	1	1	1	DK18103510	Ceramic Cap., 0.01μF 500V
C856	1	1	1	EA10610010	Electrolytic Cap., 10μF 100V
C857	1	1	1	EA47601690	Electrolytic Cap., 47μF 16V
C858	1	1	1	EA22701690	Electrolytic Cap., 220μF 16V
C859	1	1	1	EA22605090	Electrolytic Cap., 22μF 50V
C861	1	1	1	EA22605090	Electrolytic Cap., 22μF 50V
C863	1	1	1	EA10616010	Electrolytic Cap., 10μF 160V

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
F851			1	FS10025800	Fuse, SEMKO (20mm Type) 250MAT
J868			1	YJ08000200	Jack, Fuse Socket
J869			1	YJ08000200	Jack, Fuse Socket
L851	1	1	1	LY40240040	Relay
P850 POWER SUPPLY BOARD					
P850	1	1	1	YK29630210	P.W. Board
	1	1	1	ZZ29630210	P.W. Board Assembly
Q851	1	1	1	HD20006290	Diode, S5VB20 W/FIN
Q852	1	1	1	HD20011010	Diode, W06C
Q853	1	1	1	HD20011010	Diode, W06C
Q854	1	1	1	HD20011010	Diode, W06C
Q855	1	1	1	HD20011050	Diode, 1S1555
Q856	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q857	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q858	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q859	1	1	1	HT319132B0	Transistor, 2SC1913 (Q or R)
Q860	1	1	1	HT317752E0	Transistor, 2SC1775A (E or F)
Q861	1	1	1	HD30039090	Zener, WZ-240
Q862	1	1	1	HD20011050	Diode, 1S1555
Q863	1	1	1	HD20011010	Diode, W06C
R851	1	1	1	GJ05101010	Resistor, 100Ω ±5% 1W
R852	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R853	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R854	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R855	1	1	1	RT05563140	Resistor, 56kΩ ±5% ¼W
R856	1	1	1	RT05153140	Resistor, 15kΩ ±5% ¼W
R857	1	1	1	RT05203140	Resistor, 20kΩ ±5% ¼W
R858	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
R859	1	1	1	RT05243140	Resistor, 24kΩ ±5% ¼W
R860	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
R861	1	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
R862	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R863	1	1	1	GF05562120	Resistor, 5.6kΩ ±5% ½W
R864	1	1	1	GF05562120	Resistor, 5.6kΩ ±5% ½W
R865	1	1	1	RT05560140	Resistor, 56Ω ±5% ¼W
R866	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W

12. TECHNICAL SPECIFICATIONS

FOR U.S.A. MODEL ONLY

AMPLIFIER SECTION:

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	61W
POWER BAND	20Hz to 20kHz
TOTAL HARMONIC DISTORTION	0.03%
LOAD IMPEDANCE	8 OHMS
RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	77W
POWER BAND	20Hz to 20kHz
TOTAL HARMONIC DISTORTION	0.09%
LOAD IMPEDANCE	4 OHMS

I.M. Distortion

(I.H.F. method, 60Hz and 7kHz mixed 4:1 at rated power output)	
at 8 ohm load impedance	0.03%
at 4 ohm load impedance	0.09%
Damping Factor (at 20Hz)	60
Sensitivity (at MAIN IN)	1.5 V
Impedance (at MAIN IN)	30k ohms
Frequency Response for Power Amp Only (at 1 Watt output, 20Hz to 20kHz)	±0.2 dB
S/N Ratio (MAIN IN, "A" WEIGHTED)	110 dB

PREAMPLIFIER SECTION:

Phono	
Input Overload at 1kHz	200 mV
Equivalent Input Noise ("A" WEIGHTED)	0.48μV
Dynamic Range	
(Dynamic Range is the ratio of input overload to equivalent input noise)	109 dB
Input Sensitivity	1.8 mV
Input Impedance	47k ohms
Frequency Response, RIAA 20Hz to 20kHz	±0.3 dB
Signal-to-Noise Ratio ("A" WEIGHTED) (at rated output and 7.75 mV input)	83 dB
High Level (Aux and Tape)	
Input Sensitivity	180 mV

Input Impedance	20k ohms
Frequency Response	
(includes power amp)	5Hz to 60kHz ±1.0 dB
Signal-to-Noise Ratio ("A" WEIGHTED) (ref. to rated output and 775 mV input)	93 dB
Output Levels	
Tape Out (ref. 7.75 mV at Phono inputs)	775 mV
Pre-Out (ref. 180 mV at Aux inputs)	1.5 V
(ref. 500 mV at Aux inputs, main amp disconnected)	4.2 V
Output Impedance	
Tape Out	330 ohms
Pre-Out	220 ohms

GENERAL:

Power Requirements	120V AC, 60Hz
Power Consumption at rated output, both channels operating	250 Watts
Idling Power (Volume Control at zero)	50 Watts
Dimensions:	
Panel Width	416 mm (16-3/8")
Panel Height	146 mm (5-3/4")
Depth	312 mm (12-3/8")
Weight:	
Unit alone	12.5 kg (27.5 lbs)
Packed for Shipment	14.5 kg (31.9 lbs)

FOR EUROPEAN MODEL ONLY

AUDIO SECTION

POWER OUTPUT AT 1% DISTORTION	120 W
RATED POWER OUTPUT, 1kHz	76 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT, 1kHz	0.09%
I.M. DISTORTION AT RATED POWER OUTPUT (I.H.F. METHOD, 300 Hz AND 10 kHz MIXED 4:1 AT RATED POWER OUTPUT)	0.09%
POWER BANDWIDTH, ½ RATED POWER OUTPUT	7 Hz ~ 70 kHz
LOAD IMPEDANCE	4 OHMS
POWER OUTPUT AT 1% DISTORTION	75 W
RATED POWER OUTPUT, 1 kHz	61 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT, 1 kHz	0.03%
I.M. DISTORTION AT RATED POWER OUTPUT (I.H.F. METHOD, 300 Hz AND 10 kHz MIXED 4:1 AT RATED POWER OUTPUT)	0.03%
POWER BANDWIDTH, ½ RATED POWER OUTPUT	7 Hz ~ 70 kHz
LOAD IMPEDANCE	8 OHMS

Damping Factor, SP Output	
40 Hz	60
1 kHz	50
12.5 kHz	45
Frequency Response	
Phono ± 2 dB	±0.5 dB
Aux ±1.5 dB	±0.5 dB
Main In ±1.5 dB	±0.2 dB
Signal-to-Noise Ratio, 1 kHz	
Phono	56 dB
Aux	91 dB
Main In	58 dB
Input Sensitivity, 1 kHz (Rated Input Voltage)	
Phono	1.8 mV
Aux	180 mV
Main In	1.5 V
Input Impedance, 1 kHz	
Phono	47 k ohms
Aux	20 k ohms
Main In	36 k ohms
Phono Equivalent Input Noise	1.5 µV
Phono Dynamic Range	102 dB
Phono Input Capacitance	100 pF
Channel Balance	
Phono 0 ~ -40 dB	2.5 dB
Aux 40 Hz ~ 16 kHz	2.0 dB
Main In	1.0 dB
Interchannel Crosstalk	
Phono 1 kHz	43 dB
250 Hz ~ 10 kHz	40 dB
Aux 1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB
Tape 1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB

Main In 1 kHz	55 dB
250 Hz ~ 10 kHz	50 dB
Intersource Crosstalk, Worst Point	
1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB
Output Voltage, 1 kHz	
Tape Out	0.18 V
Pre Out	1.5 V
Output Impedance, 1 kHz	
Tape Out	330 ohms
Pre Out	220 ohms
Power Consumption	
Idling	50 W
Rated Power, 1 kHz	250 W

GENERAL:

Power Requirements	220 V ~, 50 Hz
(E and N versions are featuring an external voltage selector for use on 110/120/240 V. Other versions can be converted by a qualified technician to operate on 110/120/240 V.)	
Power Consumption at rated output, both channels operating	250 W ±50 W
Idling Power	50 W ±20 W
Semiconductor Complement	
Transistors	60
Diodes	39
Field Effect Transistors	4
Dimensions	
Panel Width	416 mm (16-3/8 inches)
Panel Height	146 mm (5-3/4 inches)
Depth	316 mm (12-3/8 inches)
Weight	
Unit Alone	12.5 kg (27.5 lbs)
Packed for Shipment	14.5 kg (31.9 lbs)